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AFML-TR-79-4037 Vol II

LEVEL II 2

Evaluation of the Crack Gage Concept for Monitoring Aircraft Flaw Growth Potential

Volume II – Test Results

Boeing Wichita Company
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June 1979

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The results of a test program to evaluate the ability of a bonded-on precracked coupon to monitor the growth of flaws in the basic structure are included. All testing utilized 7075-T651 aluminum from a single plate. Both constant thickness and stepped crack gages were evaluated. Evaluation of a wide range of sensitivity in crack gage crack growth response was made. Structure flaws of (1) corner flaw at a hole, (2) through flaw at a hole, and (3) center notch

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flaw were evaluated. The cyclic test loading included constant amplitude of two R ratios and three representative aircraft usage flight profiles. Strain gage instrumentation was used to measure structure stresses and load transferred into the crack gages.

FOREWORD

The experimental research program reported herein was the responsibility of the Test Engineering Unit of the Boeing Wichita Company. The work was conducted in the time period from 1 July 1977 to 1 December 1978. The work was performed to fulfill the requirements of the Air Force Materials Laboratory Contract F33615-77-C-5073.

A. F. Grandt was the AFML technical monitor. Dr. Grandt's guidance and interest were of great benefit to the program. Gary G. Cassatt of the Test Engineering Unit was the principal investigator for Boeing Wichita and all aspects of this program were conducted under his direction.

Specimen fabrication and preparation were performed by personnel of the Structures Laboratory of the Boeing Wichita Company.

Analytical contributions were the product of Ramesh Shah of BMAD, Boeing Aerospace Company of Seattle, Washington. Dr. Shah's contributions added much to the success of the program.

Program Management was the responsibility of Jack L. Bickhard of the Boeing Wichita Company.

Significant effort was supplied by Bill Evans and Betty Dunegan for data processing and report preparation. The publication of the final report was accomplished by the Industrial Graphics Department.

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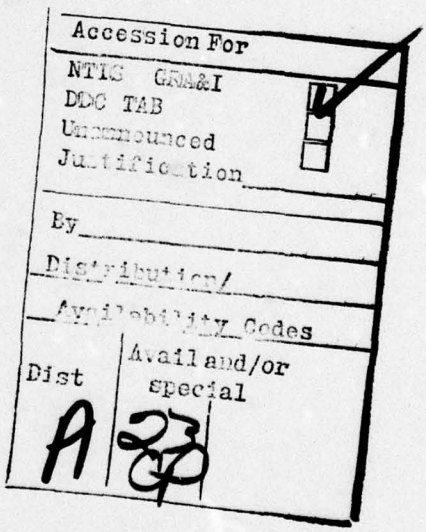

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LIST OF TABLES (CONCLUDED)

NOMENCLATURE

Symbol	Discription	Units
a	Crack Length Down Hole Wall	MM (Inches)
ASIP	Aircraft Structural Integrity Program	
b	One Half of Width W	MM (Inches)
B	Thickness	MM (Inches)
BAC, BMS	Boeing Company Specifications	---
BMAD	Boeing Military Airplane Group	---
BWC	Boeing Wichita Company	---
c	Crack Length on Surface Out of Hole	MM (Inches)
CNS	Center Notch Stepped	---
CPM	Cycles Per Minute	Hz
da/dn	Crack Growth Rate	mm/cy(in/cy)
DFHS	Double Flawed Hole Stepped	---
E	Elastic Modulus in Tension	M Pa (PSI)
EDM	Electrical Discharge Machining	---
F	Front (Side 1) Location	---
FPL	Forest Products Laboratories	---
H	Unbond Length	MM (Inches)
IN	Inches	---
k	Structure Spring Constant	kn/mm (Pounds/Inch)
K_I, SIF	Stress Intensity Factor	M Pa$\sqrt{m}$(PSI$\sqrt{IN}$)
K_{TH}	Threshold Stress Intensity Value	---
L	Length	MM (Inches)
MM	Millimeters	---
MTS	MTS System Corporation, Minneapolis, Minn.	---
P	Load	kN (Lbs.)
PABST	Primary Adhesive Bonded Structure	---
PSI	Stress	M Pa (Lbs/In^2)
R	Ratio of Minimum Load to Maximum Load	---

NOMENCLATURE (Continued)

Symbol	Description	Units
R.H.	Relative Humidity	---
SENCT	Single Edge Notch Constant Thickness	---
SENS	Single Edge Notch Constant Stepped	---
t	Thickness	MM (Inches)
UFRS	Unflawed Reference Stepped	---
v	Displacement	MM (Inches)
w	Width	MM (Inches)
σ	Stress	M Pa (PSI)
Δ	Deflection	Inches

Subscripts

S	Structure
G	Gross Area
g	Crack Gage
O	Average
T	Total
N	Net Section

SECTION I
INTRODUCTION

Six specimens were tested in this program. Each specimen consisted of a large aluminum plate containing five flaws and having ten crack gages bonded on. Strain gages were used to evaluate stress fields, load distribution and load transferred through the crack gages. Three of the specimens were tested under constant amplitude loading and three were tested under variable amplitude (flight spectrum) loading. Test data consisted of crack lengths and applied cycles or flights. Flaws and cracks in the large aluminum plates will be hereinafter referred to as structure flaws, and flaws and cracks in the crack gages will be addressed as gage flaws.

In addition to the six primary tests, support testing to evaluate the influence of the crack gage installation on the basic panel stress field and to determine baseline crack propagation da/dn data for the crack gage material was conducted.

This volume contains detail sketches of the instrumentation and crack gages used on each specimen as well as raw data of strain and crack length measurements.

Also included are the computer tabulations of K_{MAX} versus da/dn calculations.

The purpose of Volume II is to provide a complete assemblage of test results in the uncorrected and uninterpreted form to allow future researchers to conduct their own analyses and interpretations of the results. By putting the details, raw test data and data processing calculations in Volume II, Volume I becomes a more useful technical presentation uncluttered by details.

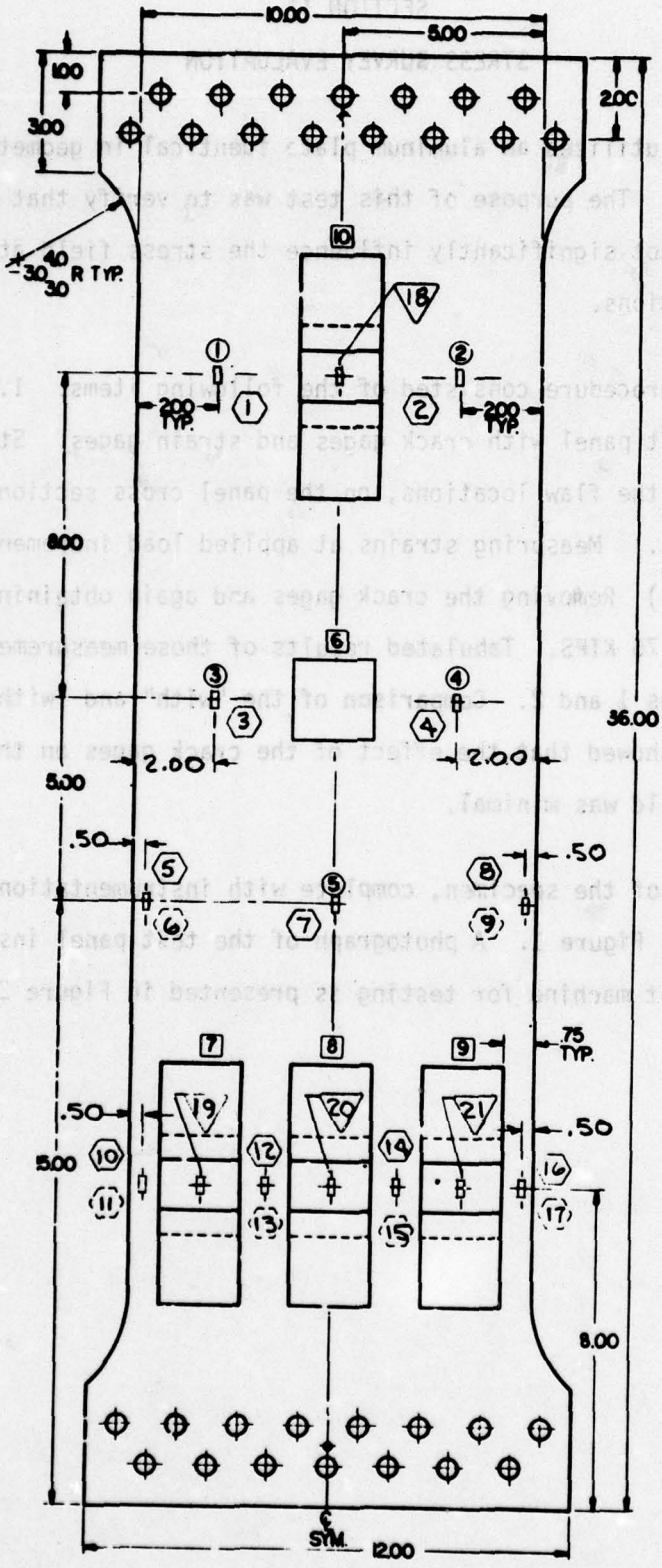
SECTION II

STRESS SURVEY EVALUATION

This test utilized an aluminum plate identical in geometry to the test specimens. The purpose of this test was to verify that crack gage placement did not significantly influence the stress field at the structure flaw locations.

The test procedure consisted of the following items: 1.) Instrumenting the test panel with crack gages and strain gages. Strain gages were placed at the flaw locations, on the panel cross section and on the crack gages. 2.) Measuring strains at applied load increments to 75 KIPS tension and 3.) Removing the crack gages and again obtaining strain measurement to 75 KIPS. Tabulated results of those measurements are presented in Tables 1 and 2. Comparison of the "with" and "without" crack gage readings showed that the effect of the crack gages on the structure flaw stress field was minimal.

A drawing of the specimen, complete with instrumentation arrangement, is presented as Figure 1. A photograph of the test panel installed in the 200 KIP MTS test machine for testing is presented in Figure 2.



All Dimensions in Inches

Figure 1. Stress Survey Specimen Details

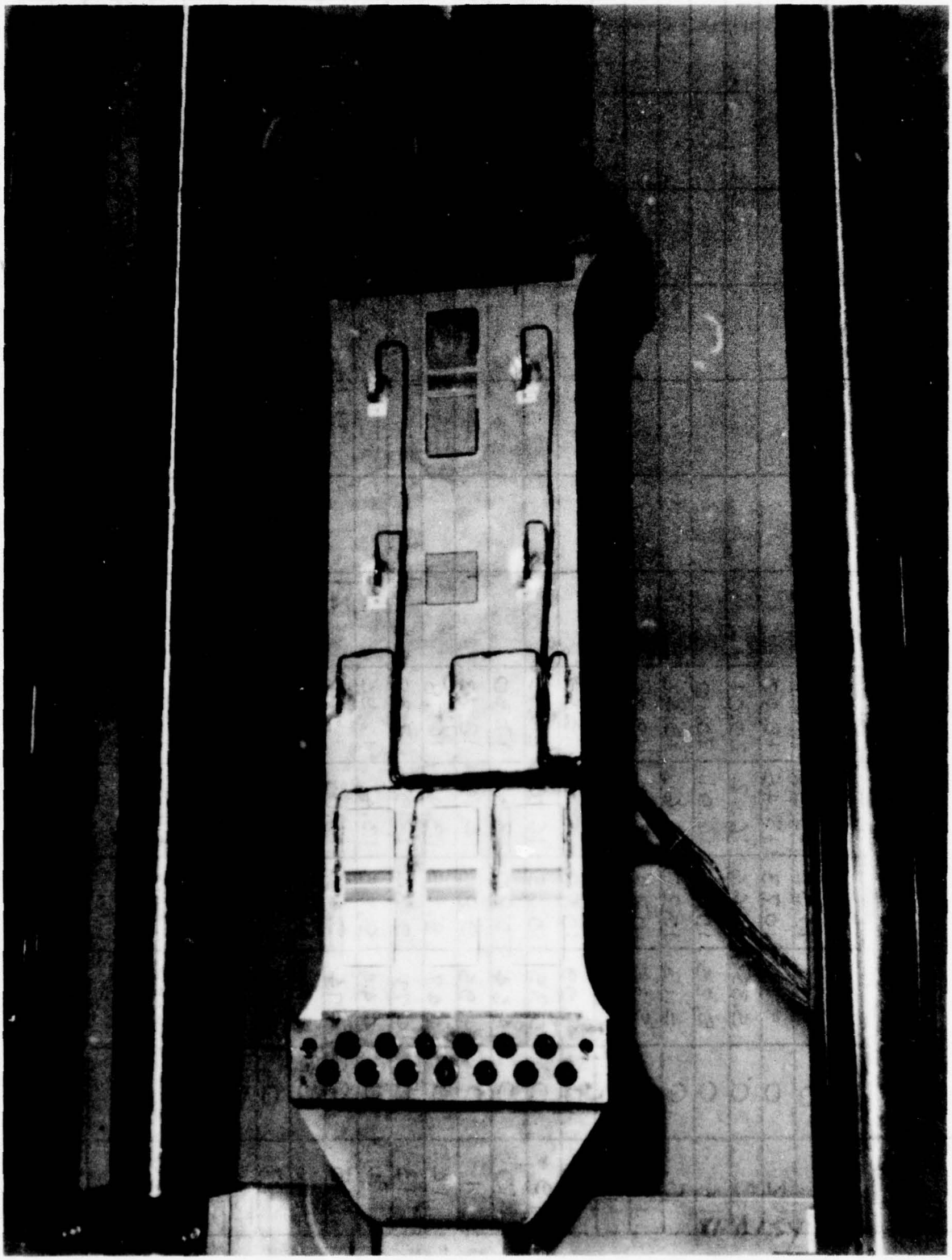


Figure 2. Stress Survey Specimer Installed in Test Machine

Table 1. Stress Survey Results with Crack Gages Installed

H.F. ~ HANGING FREE B.I. ~ BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: ALL CRACK GAGES INSTALLED MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	O B.I.	20	40	60	75								
1	0	5.41	10.55	15.86	19.67								
2	0	5.15	10.23	15.45	19.42								
3	0	5.356	10.66	16.12	20.01								
4	0	5.25	10.55	16.01	20.10								
5	0	5.13	10.28	15.66	19.42								
6	0	5.35	10.43	15.66	19.26								
7	0	5.20	10.54	16.07	20.08								
8	0	4.99	10.28	15.55	19.67								
9	0	5.35	10.65	16.07	20.19								
10	0	4.64	9.20	13.94	17.30								
11	0	4.95	9.85	14.73	18.23								
12	0	4.47	8.95	13.43	16.78								
13	0	4.73	9.34	13.99	17.39								
14	0	4.44	8.95	13.47	16.94								
15	0	4.74	9.46	14.18	17.75								
16	0	4.52	9.21	13.92	17.64								
17	0	4.72	9.51	14.39	18.13								
18	0	9.97	19.57	30.87	—								
19	0	8.63	16.77	24.93	31.22								
20	0	8.90	17.02	27.30	—								
21	0	8.54	16.72	24.85	31.17								

Table 2. Stress Survey Results with Crack Gages Removed

H.F. ~ HANGING FREE B.I. ~ BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: WITH CRACK GAGES REMOVED MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	0 B.I.	20	40	60	75								
1	0	5.51	10.89	16.22	20.23								
2	0	5.23	10.46	15.74	19.76								
3	0	5.36	10.67	16.02	20.04								
4	0	5.16	10.43	15.76	19.78								
5	0	5.26	10.49	15.76	19.72								
6	0	5.47	10.60	15.72	19.53								
7	0	5.19	10.46	15.80	19.84								
8	0	4.92	10.18	15.50	19.50								
9	0	5.26	10.60	15.94	19.96								
10	0	5.23	10.24	15.31	19.13								
11	0	5.40	10.71	16.06	20.02								
12	0	5.23	10.38	15.56	19.47								
13	0	5.36	10.75	16.13	20.14								
14	0	5.13	10.32	15.53	19.50								
15	0	5.28	10.71	16.13	20.19								
16	0	4.94	10.05	15.21	19.12								
17	0	5.05	10.30	15.61	19.61								

SECTION III

INSTRUMENTATION DETAILS AND STRAIN MEASUREMENTS

Strain gages were utilized on all six specimens to measure specimen cross section stresses. Specimens AFCG-2, AFCG-3, and AFCG-4 were extensively instrumented with strain gages to measure, in addition to specimen stresses, loads transferred from the specimen through each crack gage type.

The strain gages were read at the start of testing on all specimens and, in addition, periodically throughout the test on Specimens AFCG-2, -3, and -4.

The instrumentation details of strain and crack gages are presented in Figures 3 through 8 for the six test specimens AFCG-1 through AFCG-6.

Photographs of each specimen presenting verification of instrumentation details are presented in Figures 9 through 32.

Tabulated measured dimensions of crack gages and structure flaws are presented in Tables 3 through 14.

Strain readings with the corresponding applied load values are presented in Tables 15 through 50.

Caution should be exercised in utilizing the strain readings in this volume. They are uncorrected raw test data. At longer crack lengths, strain gages close to the crack tip show stress readings greater than the yield point of the base material. It should be understood that such readings are

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apparent stress values and should be recognized as being in the yield zone of the crack tip.

Other discrepancies may exist in the recorded strain data. When utilized and studied in the proper context, any irregularities, if they exist, will be recognized and should cause minimal problems.

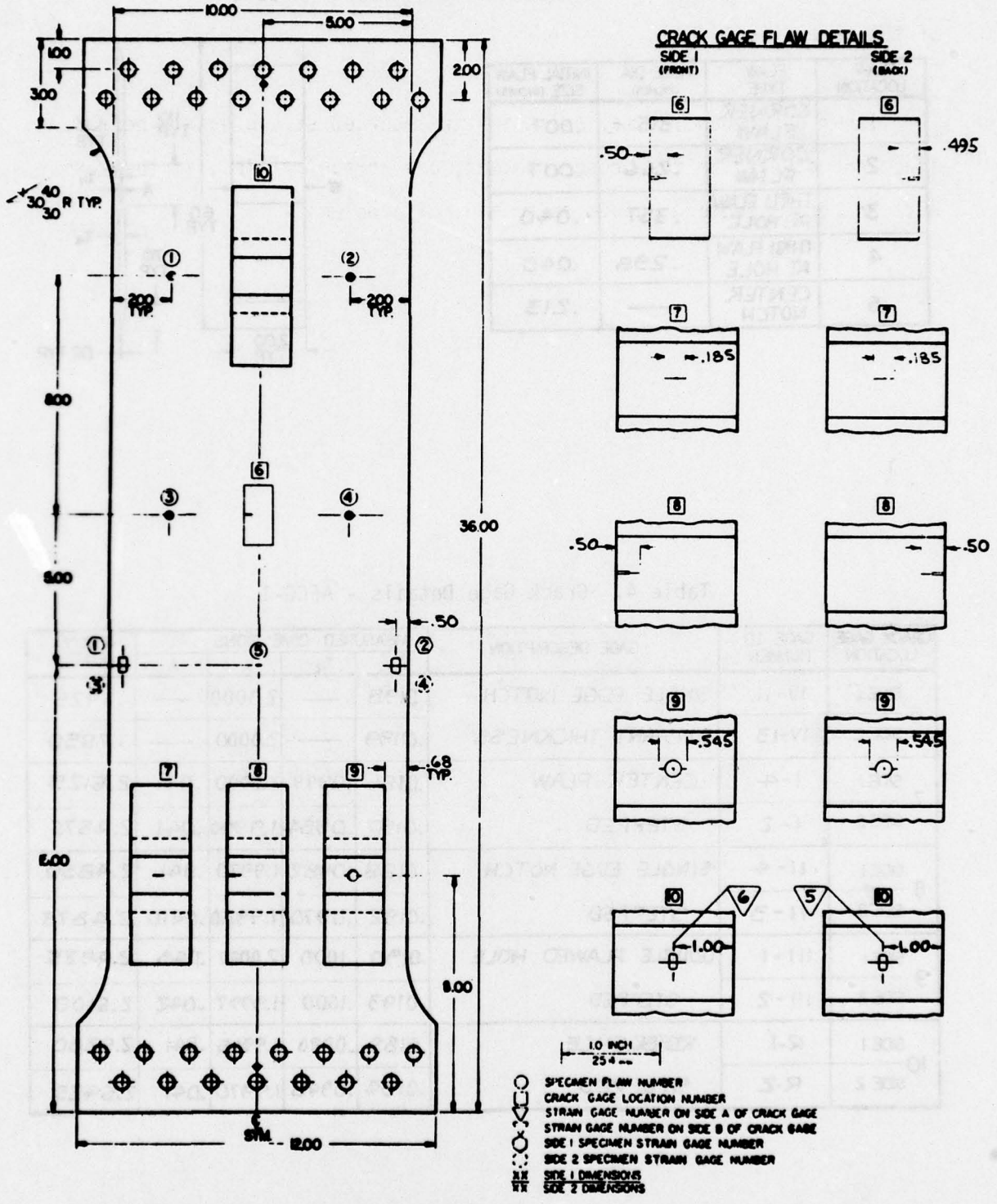

Figure 3. Instrumentation Details - Specimen AFCG-1

Table 3. Structure Flaw Details - AFCG-1

FLAW LOCATION	FLAW TYPE	HOLE DIA. (INCHES)	INITIAL FLAW SIZE (INCHES)
1	CORNER FLAW	.315	.007
2	CORNER FLAW	.266	.007
3	THRU FLAW AT HOLE	.357	.040
4	THRU FLAW AT HOLE	.298	.040
5	CENTER NOTCH	——	.213

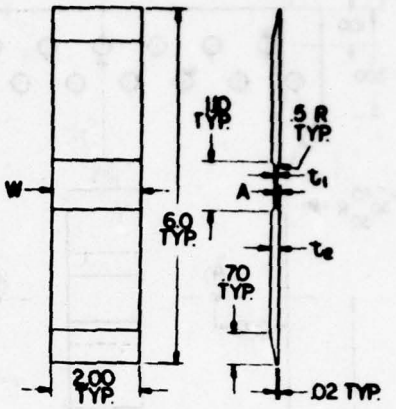

Table 4. Crack Gage Details - AFCG-1

CRACK GAGE LOCATION		GAGE ID NUMBER	GAGE DESCRIPTION	MEASURED DIMENSIONS				UNBOND LENGTH
				t_1	t_2	W	A	
6	SIDE 1	IV-11	SINGLE EDGE NOTCH	.0198	——	2.0000	——	.7925
	SIDE 2	IV-13	CONSTANT THICKNESS	.0199	——	2.0000	——	.7850
7	SIDE 1	1-4	CENTER FLAW	.0186	.0999	2.0000	.041	2.5125
	SIDE 2	1-2	STEPPED	.0187	.0984	1.9990	.041	2.4875
8	SIDE 1	11-4	SINGLE EDGE NOTCH	.0188	.0982	1.9970	.041	2.4850
	SIDE 2	11-3	STEPPED	.0192	.0970	1.9980	.0410	2.4875
9	SIDE 1	111-1	DOUBLE FLAWED HOLE	.0190	.1000	2.0000	.043	2.4925
	SIDE 2	111-2	STEPPED	.0193	.1000	1.9997	.042	2.5100
10	SIDE 1	R-1	REFERENCE	.0189	.0998	1.9965	.041	2.5200
	SIDE 2	R-2	STEPPED	.0184	.0998	1.9970	.041	2.5425

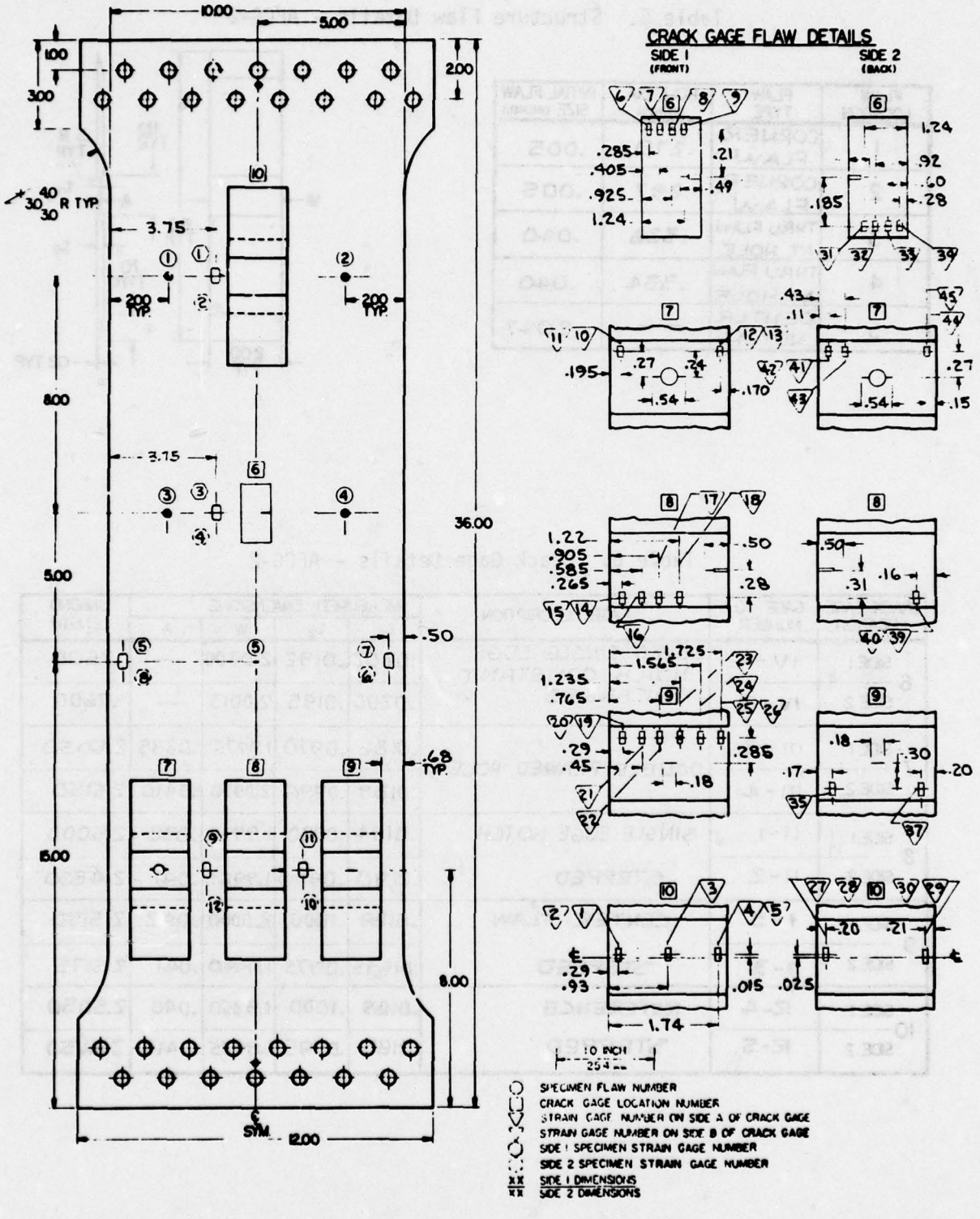

Figure 4. Instrumentation Details - Specimen AFCG-2

Table 5. Structure Flaw Details - AFCG-2

FLAW LOCATION	FLAW TYPE	HOLE DIA (INCHES)	INITIAL FLAW SIZE (INCHES)
1	CORNER FLAW	.270	.005
2	CORNER FLAW	.297	.005
3	THRU FLAW AT HOLE	.328	.040
4	THRU FLAW AT HOLE	.334	.040
5	CENTER NOTCH	—	.2047

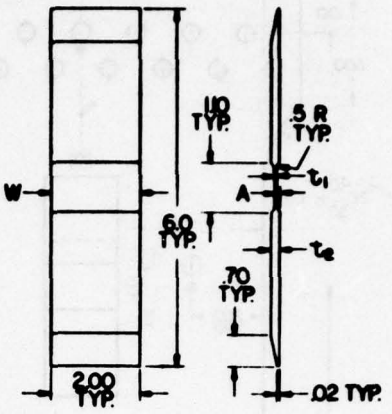

Table 6. Crack Gage Details - AFCG-2

CRACK GAGE LOCATION	GAGE ID NUMBER	GAGE DESCRIPTION	MEASURED DIMENSIONS				UNBOND LENGTH
			τ_1	τ_2	W	A	
6 SIDE 1	IV-4	2.0×2.0 SINGLE EDGE NOTCH CONSTANT THICKNESS	.0202	.0192	2.0000	—	.7500
6 SIDE 2	IV-3		.0200	.0195	2.0013	—	.7600
7 SIDE 1	III-3	DOUBLE FLAWED HOLE	.0186	.0970	1.9975	.0385	2.5050
7 SIDE 2	III-4		.0189	.0990	2.0000	.0410	2.5150
8 SIDE 1	II-1	SINGLE EDGE NOTCH	.0194	.0980	1.9990	.038	2.5000
8 SIDE 2	II-2	STEPPED	.0190	.0990	1.9985	.041	2.4850
9 SIDE 1	I-5	CENTER FLAW	.0189	.1000	2.0000	.042	2.5150
9 SIDE 2	I-3	STEPPED	.01895	.0975	1.9990	.041	2.5175
10 SIDE 1	R-4	REFERENCE	.0189	.1000	1.9950	.040	2.5050
10 SIDE 2	R-5	STEPPED	.0185	.0995	1.9975	.0415	2.4650

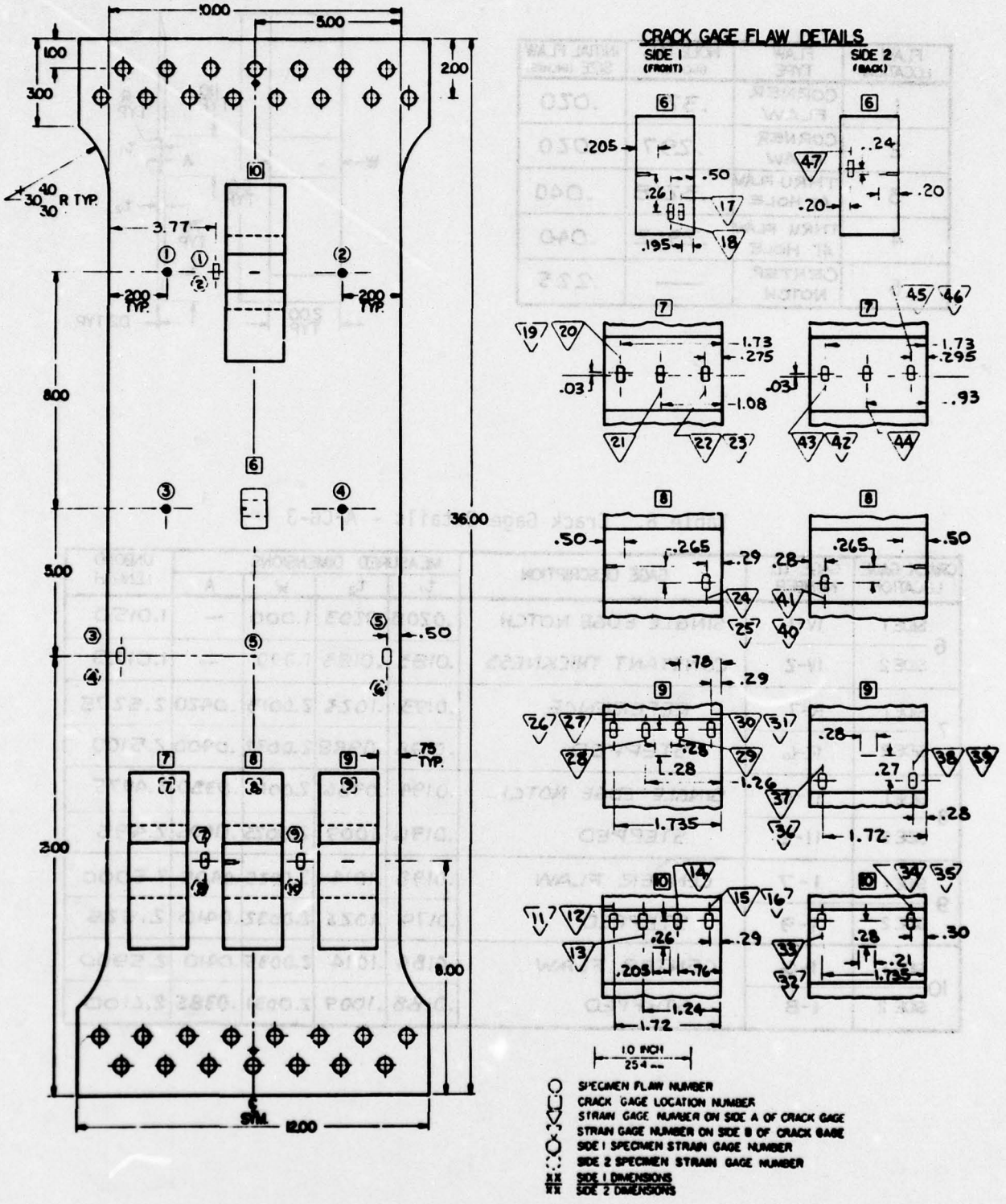

Figure 5. Instrumentation Details - Specimen AFCG-3

Table 7. Structure Flaw Details - AFCG-3

FLAW LOCATION	FLAW TYPE	HOLE DIA. (INCHES)	INITIAL FLAW SIZE (INCHES)
1	CORNER FLAW	.3211	.020
2	CORNER FLAW	.2971	.020
3	THRU FLAW AT HOLE	.3218	.040
4	THRU FLAW AT HOLE	.2962	.040
5	CENTER NOTCH	—	.225

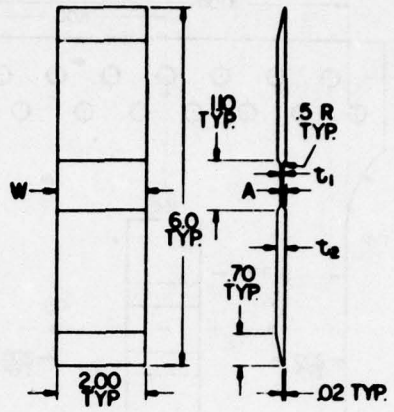

Table 8. Crack Gage Details - AFCG-3

CRACK GAGE LOCATION	GAGE I.D. NUMBER	GAGE DESCRIPTION	MEASURED DIMENSIONS				UNBOND LENGTH
			τ_1	τ_2	W	A	
6 SIDE 1	IV-1	SINGLE EDGE NOTCH	.0208	.0203	1.000	—	1.0150
6 SIDE 2	IV-2	CONSTANT THICKNESS	.0183	.0183	1.000	—	1.0125
7 SIDE 1	R-7	REFERENCE	.0193	.1023	2.0013	.0420	2.5275
7 SIDE 2	R-6	STEPPED	.0198	.0988	2.0032	.0400	2.5100
8 SIDE 1	11-6	SINGLE EDGE NOTCH	.0199	.0986	2.0011	.0380	2.4975
8 SIDE 2	11-5	STEPPED	.0196	.1009	2.0025	.0405	2.495
9 SIDE 1	1-7	CENTER FLAW	.0198	.1014	2.0025	.0405	2.5000
9 SIDE 2	1-9	STEPPED	.0179	.1026	2.0032	.0410	2.525
10 SIDE 1	1-6	CENTER FLAW	.0184	.1014	2.0035	.0410	2.5900
10 SIDE 2	1-8	STEPPED	.0188	.1009	2.0031	.0385	2.6100

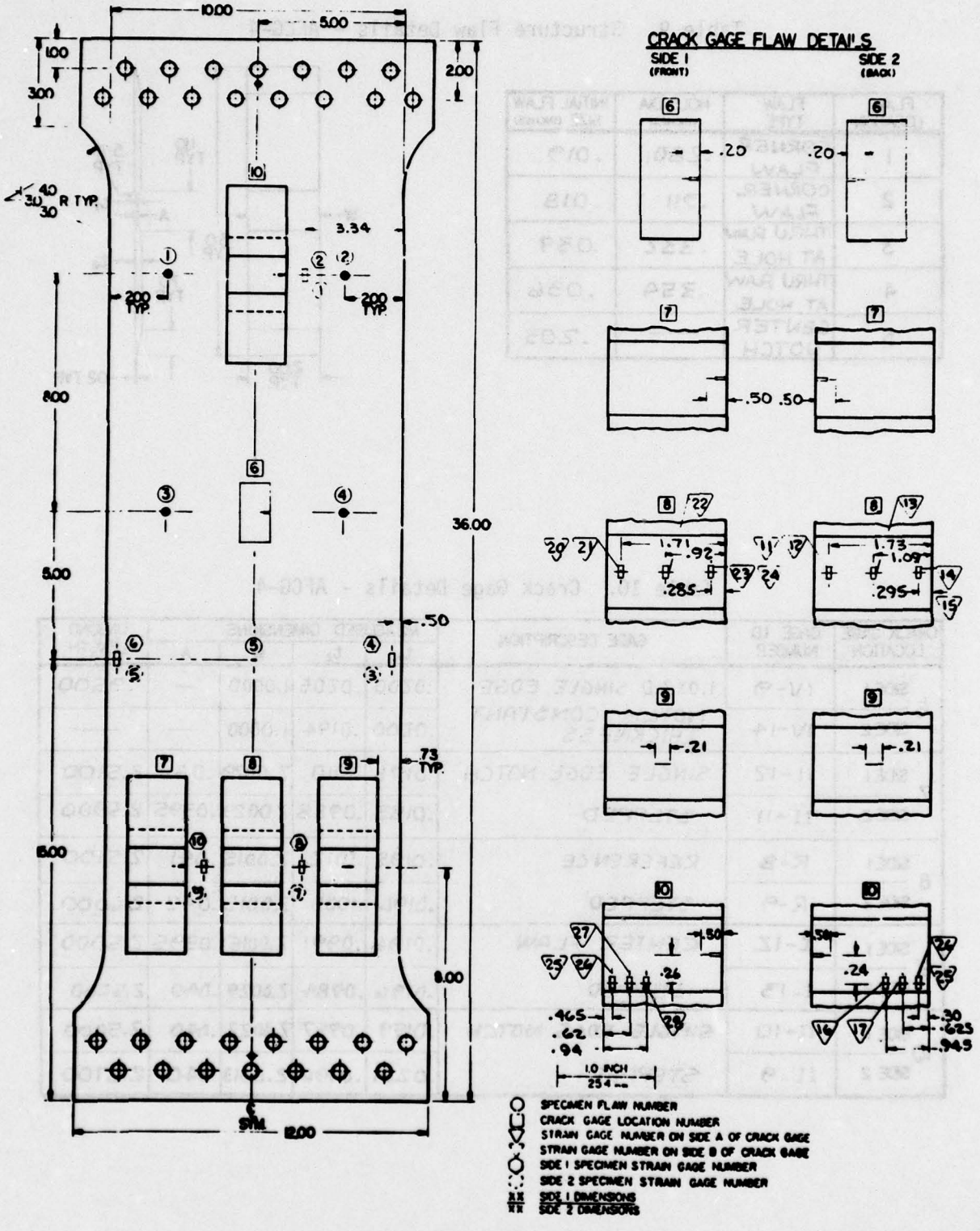

Figure 6. Instrumentation Details - Specimen AFCG-4

Table 9. Structure Flaw Details - AFCG-4

FLAW LOCATION	FLAW TYPE	HOLE DIA (INCHES)	INITIAL FLAW SIZE (INCHES)
1	CORNER FLAW	.280	.019
2	CORNER FLAW	.311	.018
3	THRU FLAW AT HOLE	.332	.039
4	THRU FLAW AT HOLE	.354	.036
5	CENTER NOTCH	—	.203

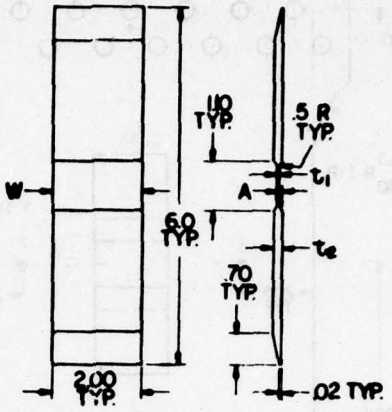

Table 10. Crack Gage Details - AFCG-4

CRACK GAGE LOCATION	GAGE ID NUMBER	GAGE DESCRIPTION	MEASURED DIMENSIONS				UNBOND LENGTH
			t_1	t_2	W	A	
6 SIDE 1	IV-9	1.0X2.0 SINGLE EDGE NOTCH CONSTANT THICKNESS	.0200	.0205	1.0000	—	.9500
6 SIDE 2	IV-14		.0200	.0194	1.0000	—	—
7 SIDE 1	II-12	SINGLE EDGE NOTCH STEPPED	.0176	.1010	2.0029	.041	2.5100
7 SIDE 2	II-11		.0183	.0988	2.0029	.0395	2.5900
8 SIDE 1	R-8	REFERENCE	.0195	.1012	2.0015	.041	2.5100
8 SIDE 2	R-9	STEPPED	.0196	.1005	2.0015	.042	2.6000
9 SIDE 1	I-12	CENTER FLAW	.0196	.0991	2.0015	.0395	2.5000
9 SIDE 2	I-13	STEPPED	.0196	.0984	2.0029	.040	2.5000
10 SIDE 1	II-10	SINGLE EDGE NOTCH	.0199	.0997	2.0022	.040	2.5000
10 SIDE 2	II-9	STEPPED	.0201	.0996	2.0013	.040	2.5700

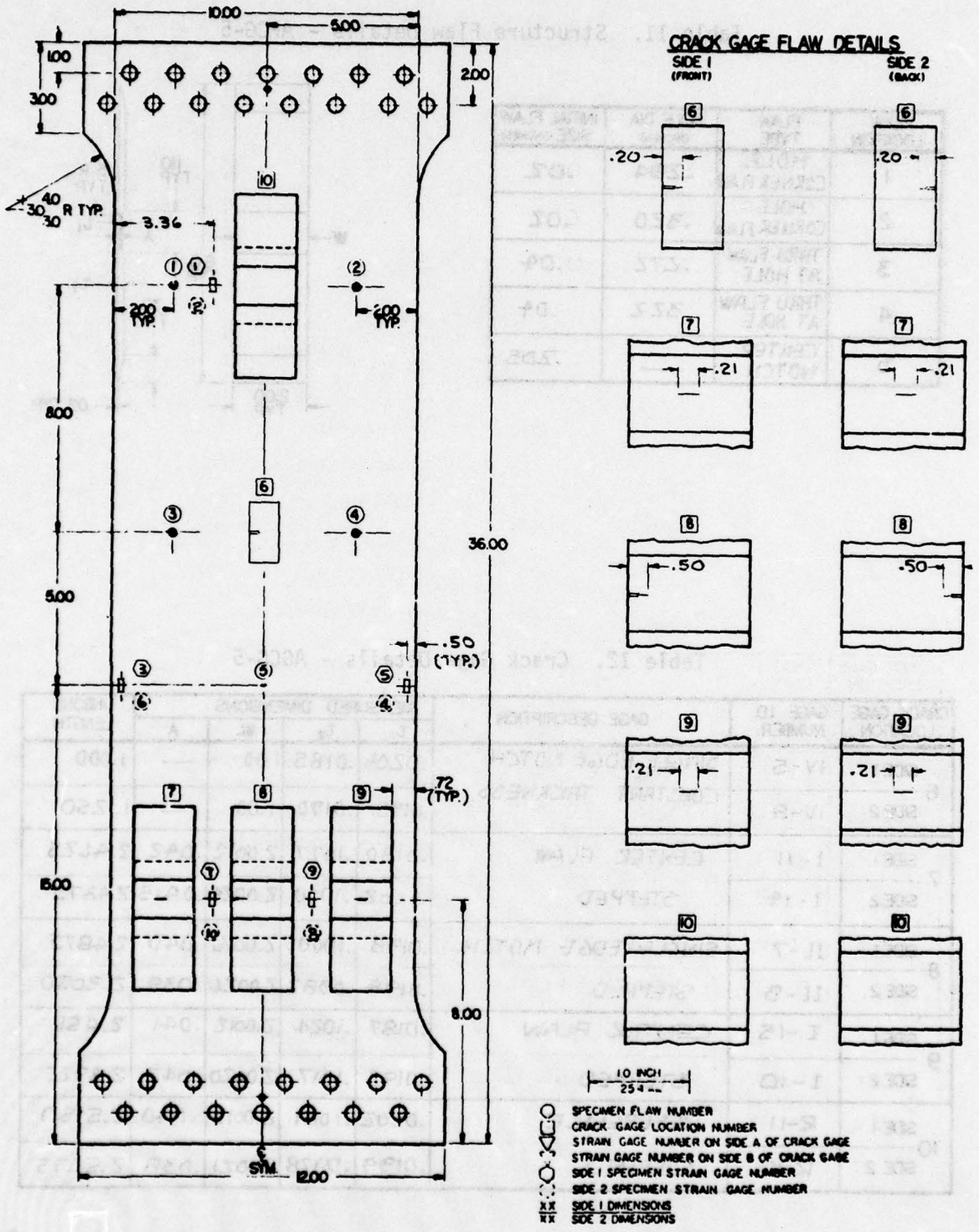

Figure 7. Instrumentation Details - Specimen AFCG-5

Table 11. Structure Flaw Details - AFCG-5

FLAW LOCATION	FLAW TYPE	HOLE DIA. (INCHES)	INITIAL FLAW SIZE (INCHES)
1	HOLE CORNER FLAW	.294	.02
2	HOLE CORNER FLAW	.320	.02
3	THRU FLAW AT HOLE	.272	.04
4	THRU FLAW AT HOLE	.322	.04
5	CENTER NOTCH	—	.205

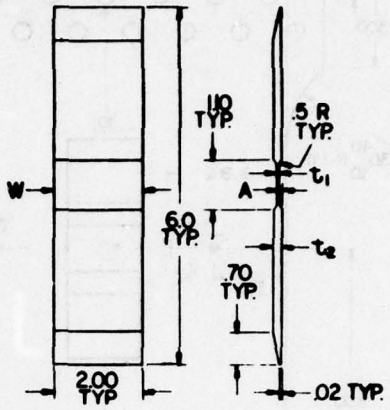

Table 12. Crack Gage Details - AGCG-5

CRACK GAGE LOCATION		GAGE I.D. NUMBER	GAGE DESCRIPTION	MEASURED DIMENSIONS t_1	t_2	W	A	UNBOND LENGTH
6	SIDE 1	IV-5	SINGLE EDGE NOTCH CONSTANT THICKNESS	.0205	.0185	1.00	—	1.000
	SIDE 2	IV-8		.0195	.0190	1.00	—	1.1250
7	SIDE 1	1-11	CENTER FLAW STEPPED	.0180	.1027	2.0012	.042	2.4625
	SIDE 2	1-19		.0202	.1000	2.0024	.0415	2.4875
8	SIDE 1	II-7	SINGLE EDGE NOTCH STEPPED	.0198	.1000	2.0016	.040	2.4875
	SIDE 2	II-8		.0198	.0982	2.0026	.039	2.3050
9	SIDE 1	I-15	CENTER FLAW STEPPED	.0187	.1024	2.0012	.041	2.455
	SIDE 2	1-10		.0192	.1017	2.0020	.042	2.4925
10	SIDE 1	R-11	REFERENCE STEPPED	.0202	.1001	2.0013	.040	2.5150
	SIDE 2	R-10		.0199	.0978	2.0021	.038	2.5475

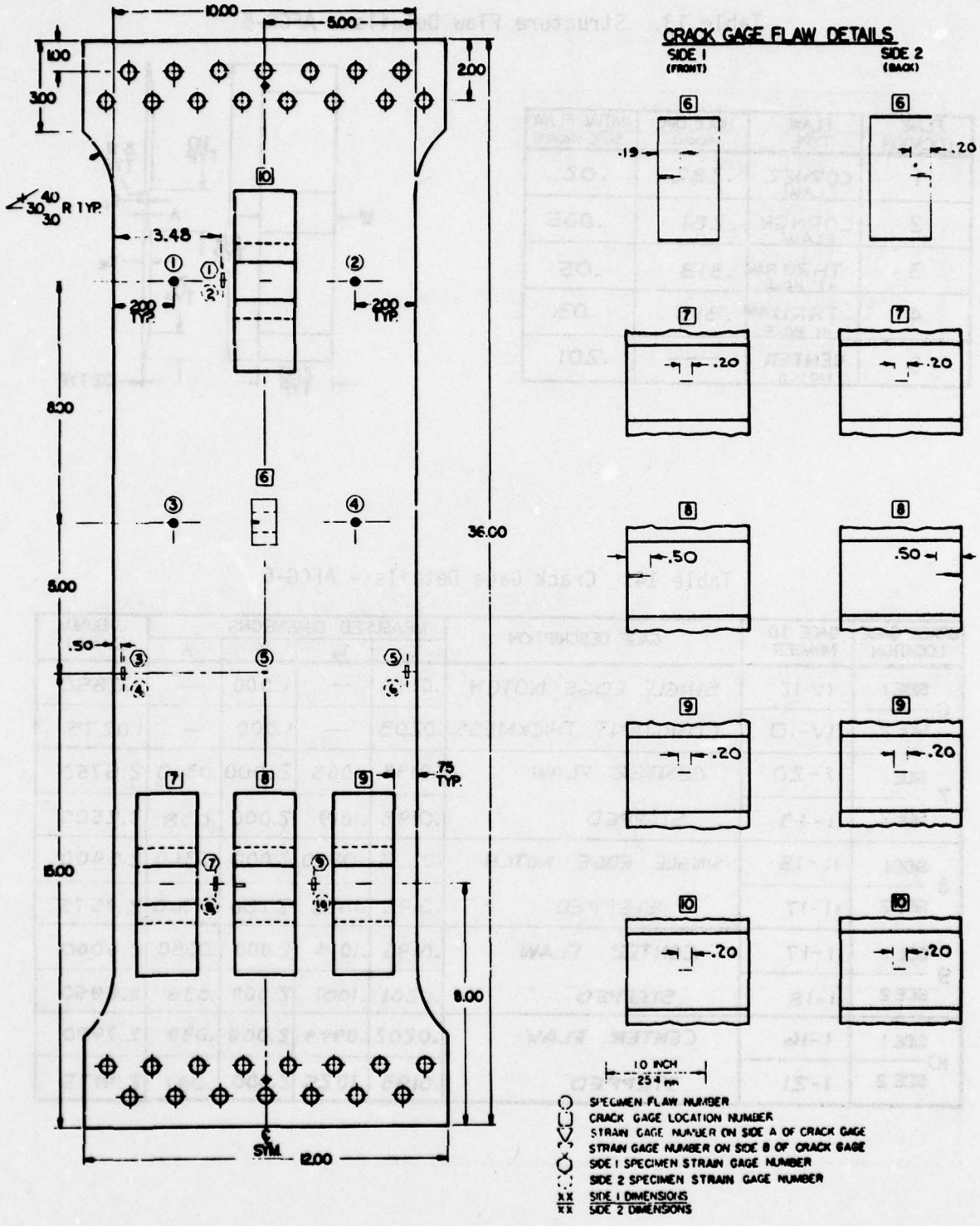

Figure 8. Instrumentation Details - Specimen AFCG-6

Table 13. Structure Flaw Details - AFCG-6

FLAW LOCATION	FLAW TYPE	HOLE DIA (INCHES)	INITIAL FLAW SIZE (INCHES)
1	CORNER FLAW	.282	.02
2	CORNER FLAW	.281	.005
3	THRU FLAW AT HOLE	.313	.05
4	THRU FLAW AT HOLE	.315	.03
5	CENTER NOTCH	——	.201

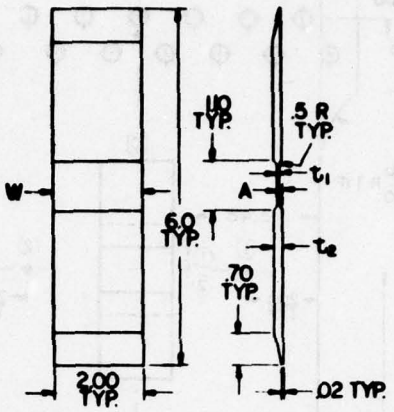

Table 14. Crack Gage Details - AFCG-6

CRACK GAGE LOCATION	GAGE I.D. NUMBER	GAGE DESCRIPTION	MEASURED DIMENSIONS t_1	t_2	W	A	UNBOND LENGTH
6 SIDE 1	IV-12	SINGLE EDGE NOTCH	.0198	—	1.000	—	1.0850
6 SIDE 2	IV-10	CONSTANT THICKNESS	.0203	—	1.000	—	1.0275
7 SIDE 1	1-20	CENTER FLAW	.0199	.1005	2.000	.0360	2.5750
7 SIDE 2	1-19	STEPPED	.0193	.1019	2.000	.038	3.2500
8 SIDE 1	11-18	SINGLE EDGE NOTCH	.0203	.0990	2.000	.0360	2.5400
8 SIDE 2	11-17	STEPPED	.0193	.1018	2.000	.0360	2.7575
9 SIDE 1	11-17	CENTER FLAW	.0196	.1014	2.000	.0380	2.6000
9 SIDE 2	1-18	STEPPED	.0201	.1001	2.000	.038	2.5950
10 SIDE 1	1-16	CENTER FLAW	.0202	.0999	2.000	.039	2.7900
10 SIDE 2	1-21	STEPPED	.0193	.1025	2.000	.037	2.9175

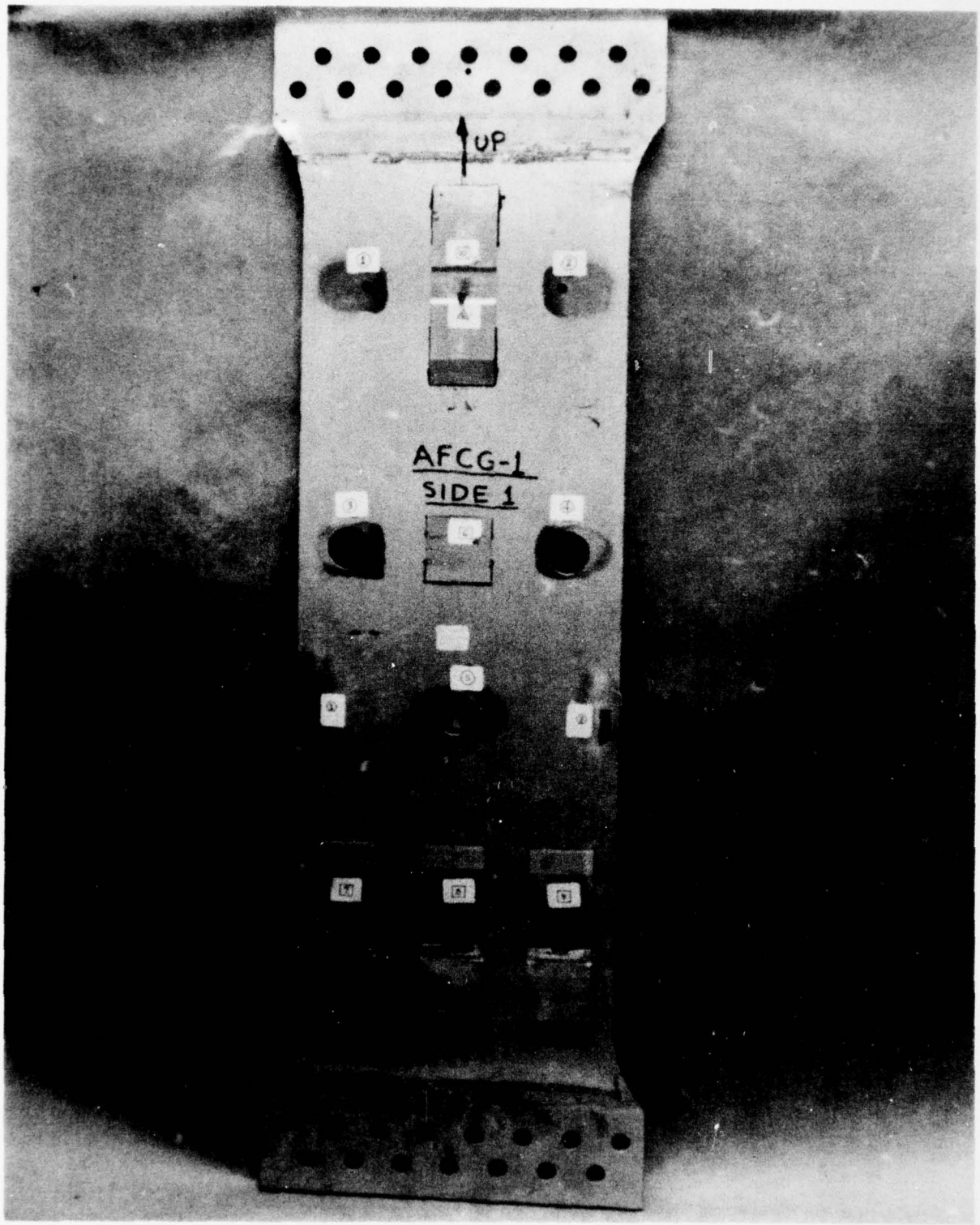

Figure 9. Photograph of Specimen AFCG-1 Side 1

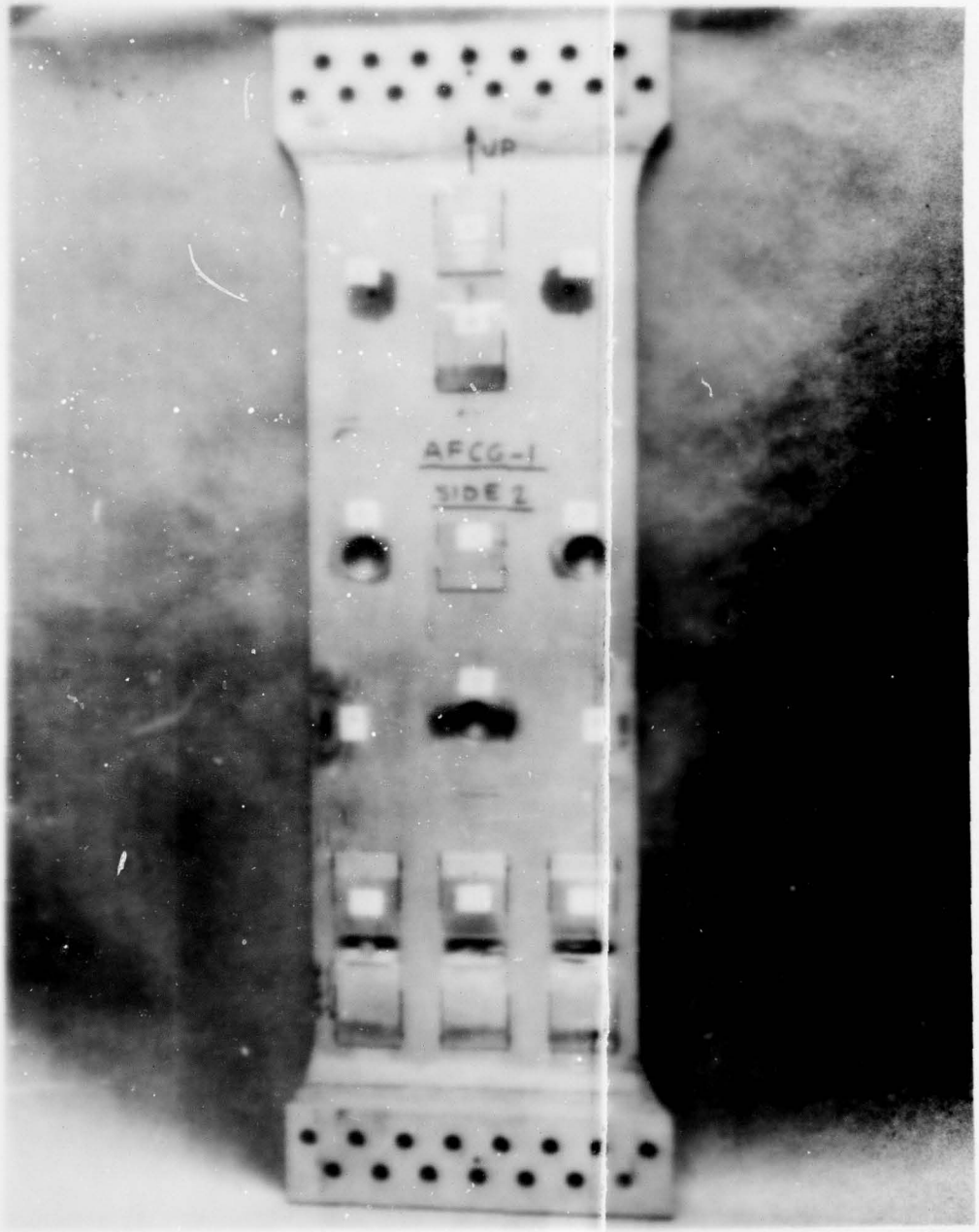

Figure 10. Photograph of Specimen AFCG-1 Side 2

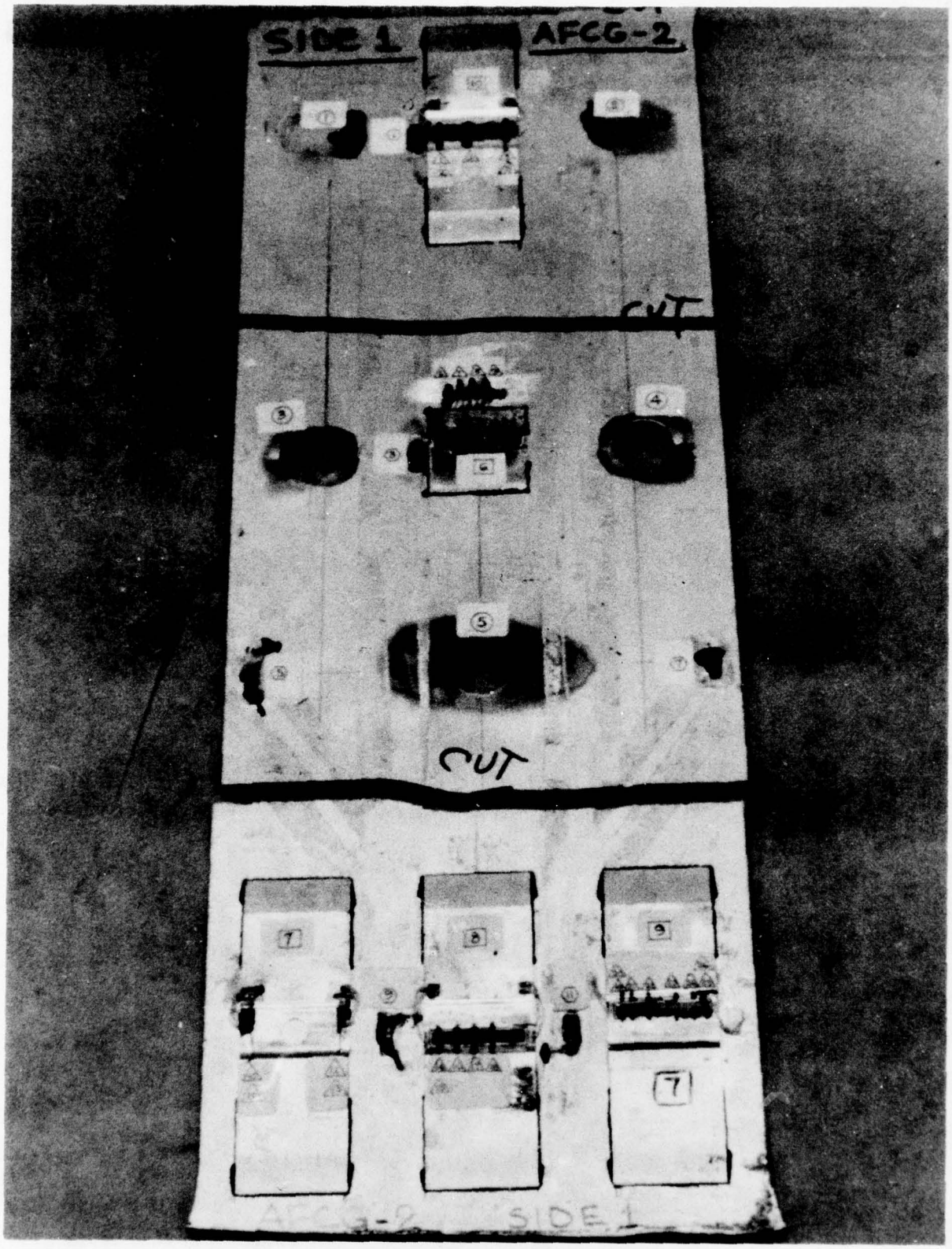

Figure 11. Photograph of Specimen AFCG-2 Side 1

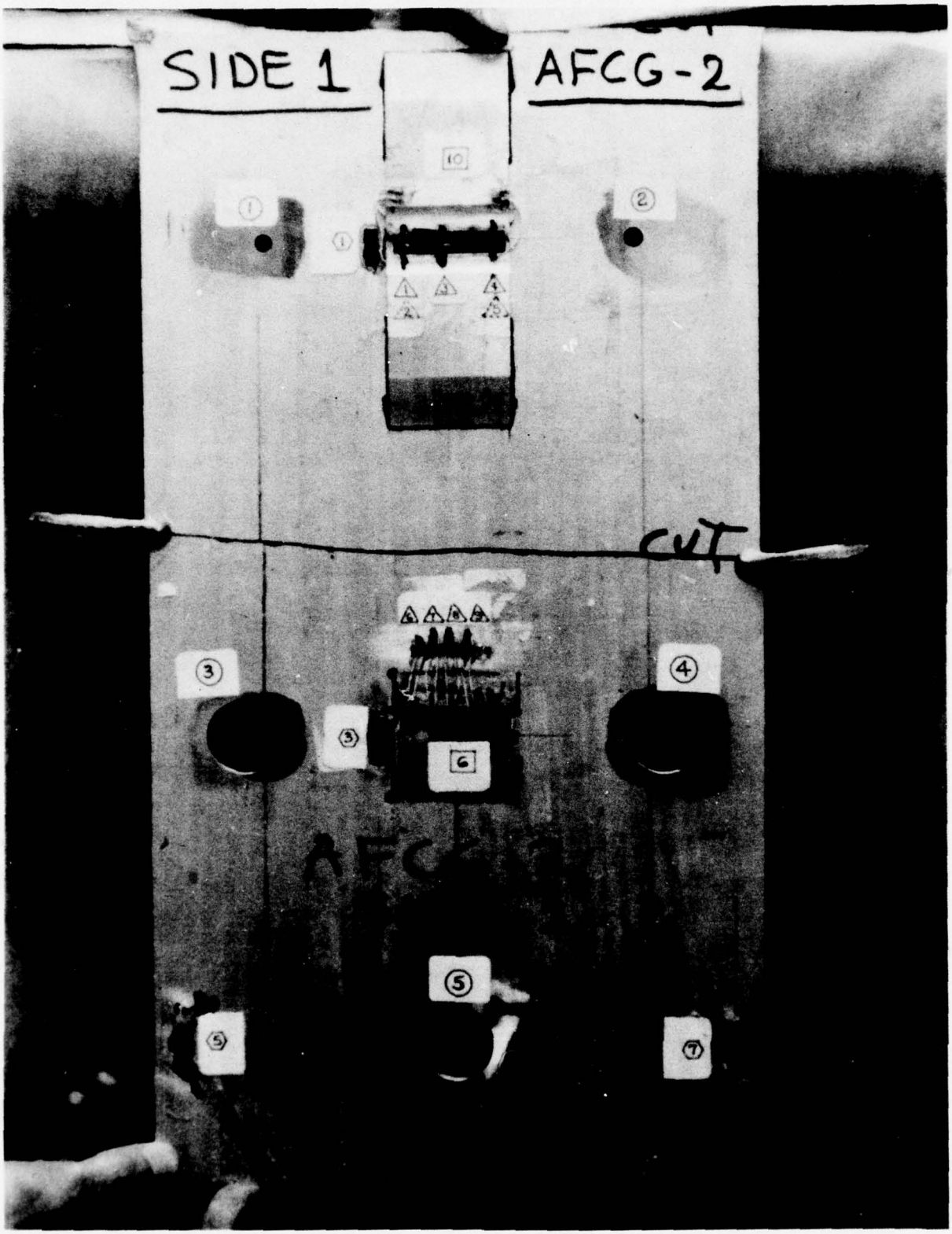

Figure 12. Photograph of Specimen AFCG-2 Side 1 Detail

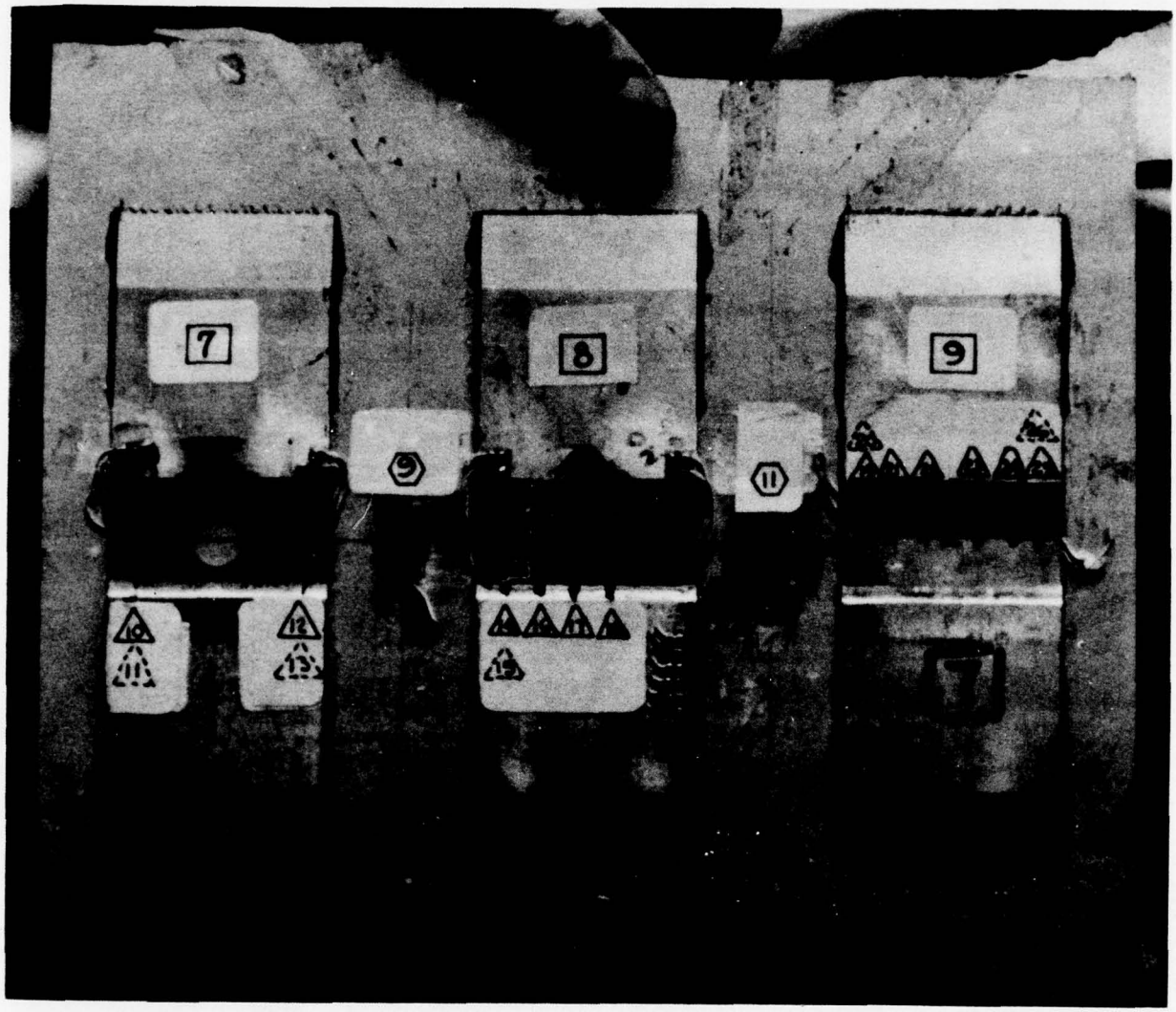

Figure 13. Photograph of Specimen AFCG-2 Side 1 Detail

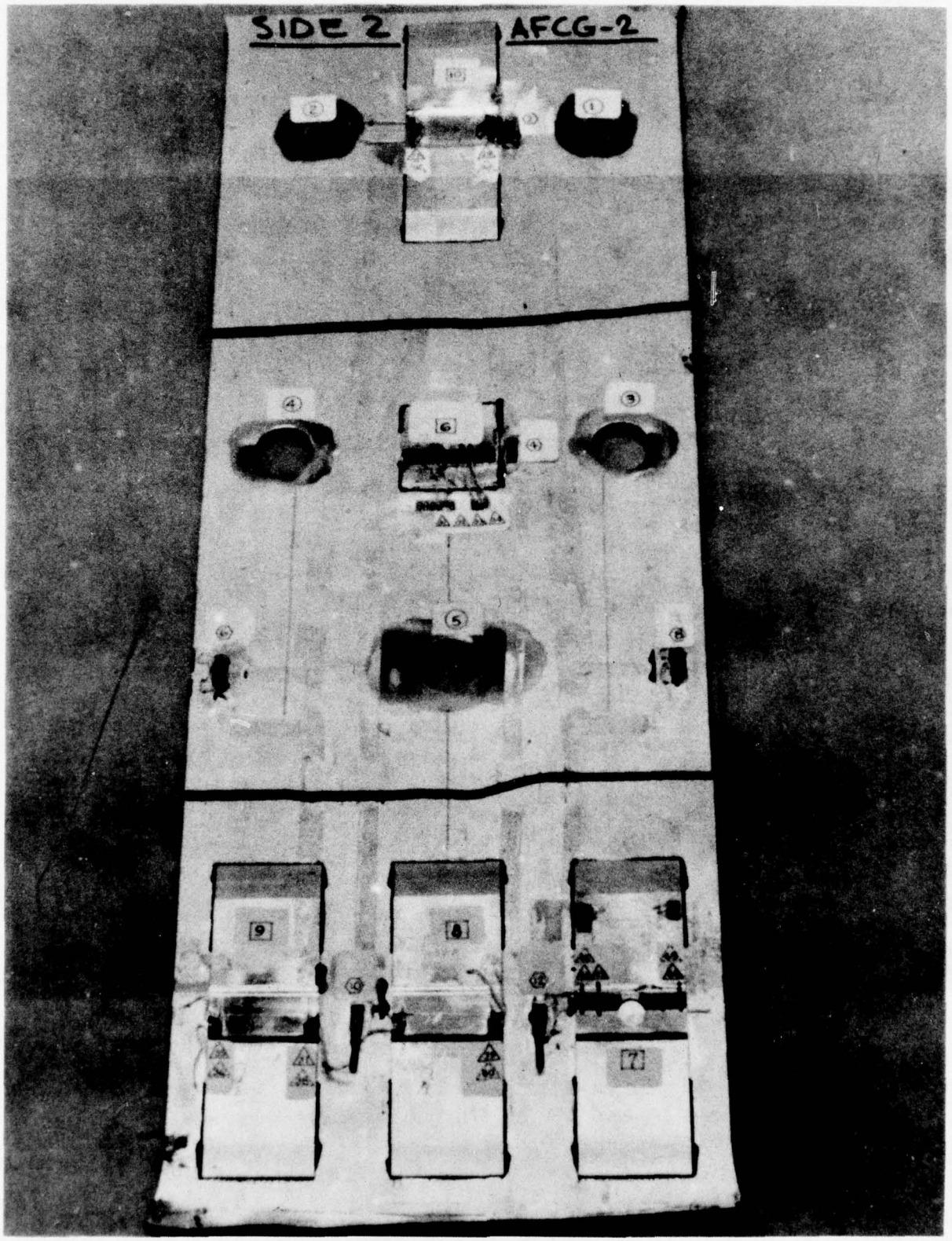

Figure 14. Photograph of Specimen AFCG-2 Side 2

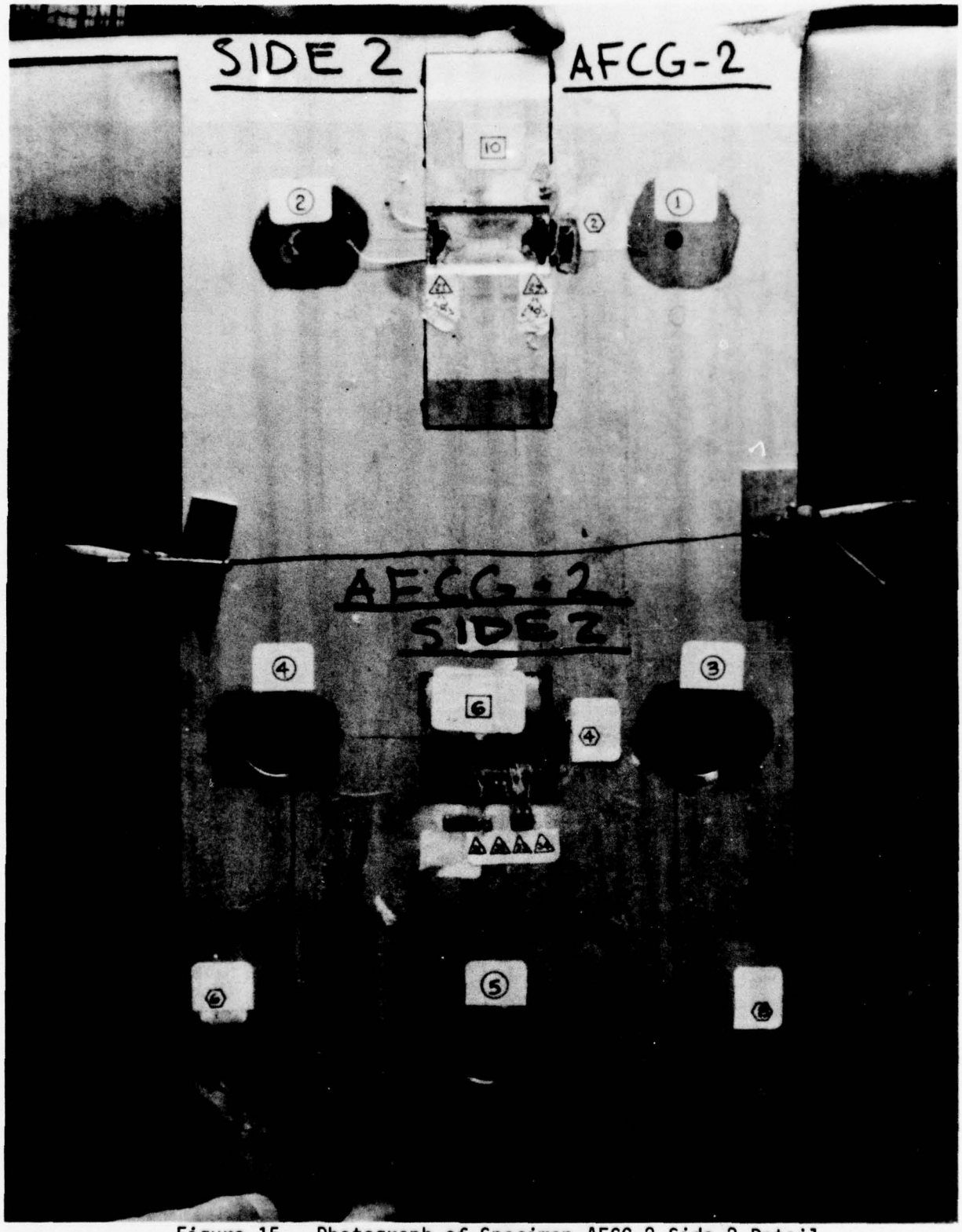

Figure 15. Photograph of Specimen AFCG-2 Side 2 Detail

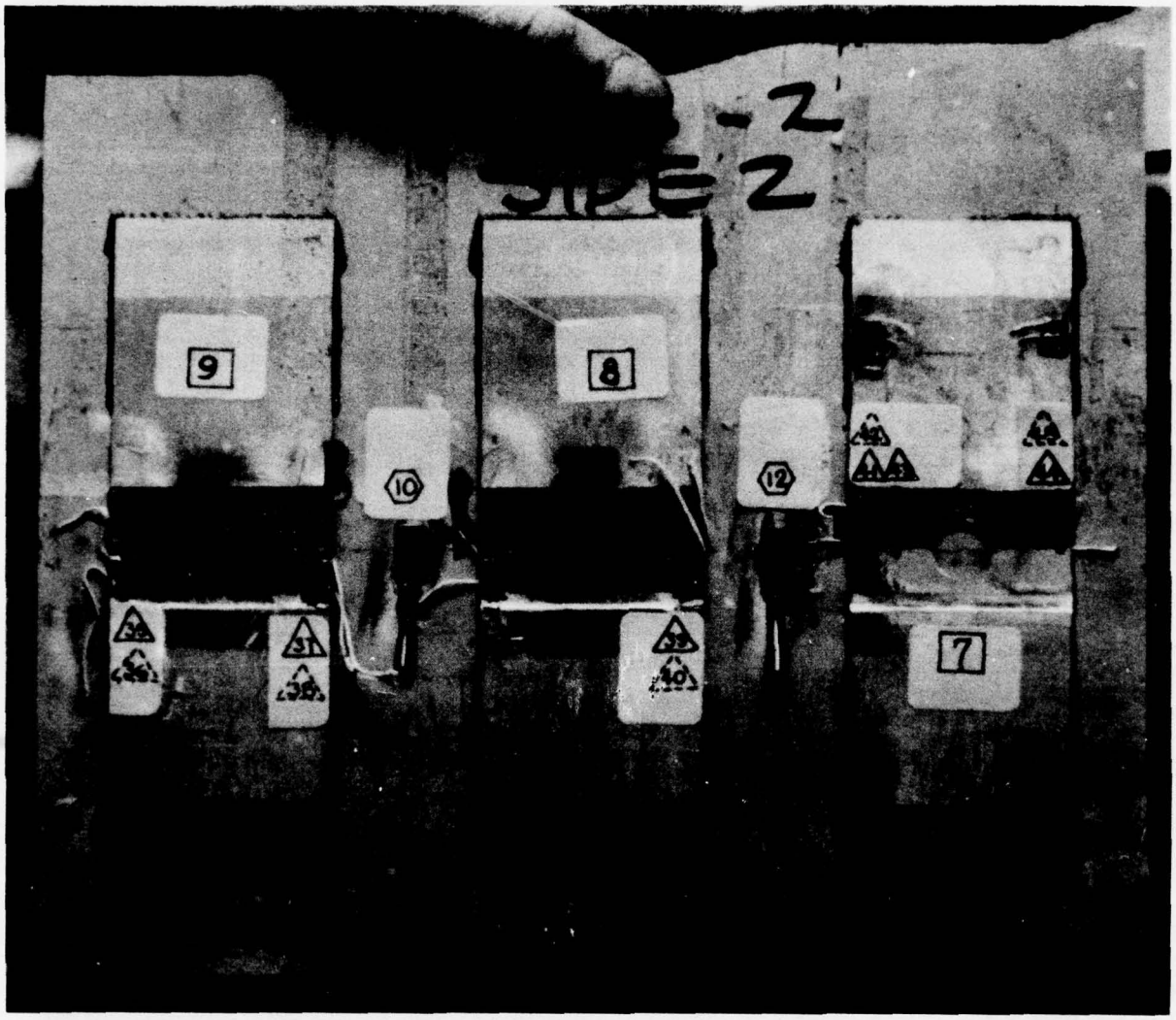

Figure 16. Photograph of Specimen AFCG-2 Side 2 Detail

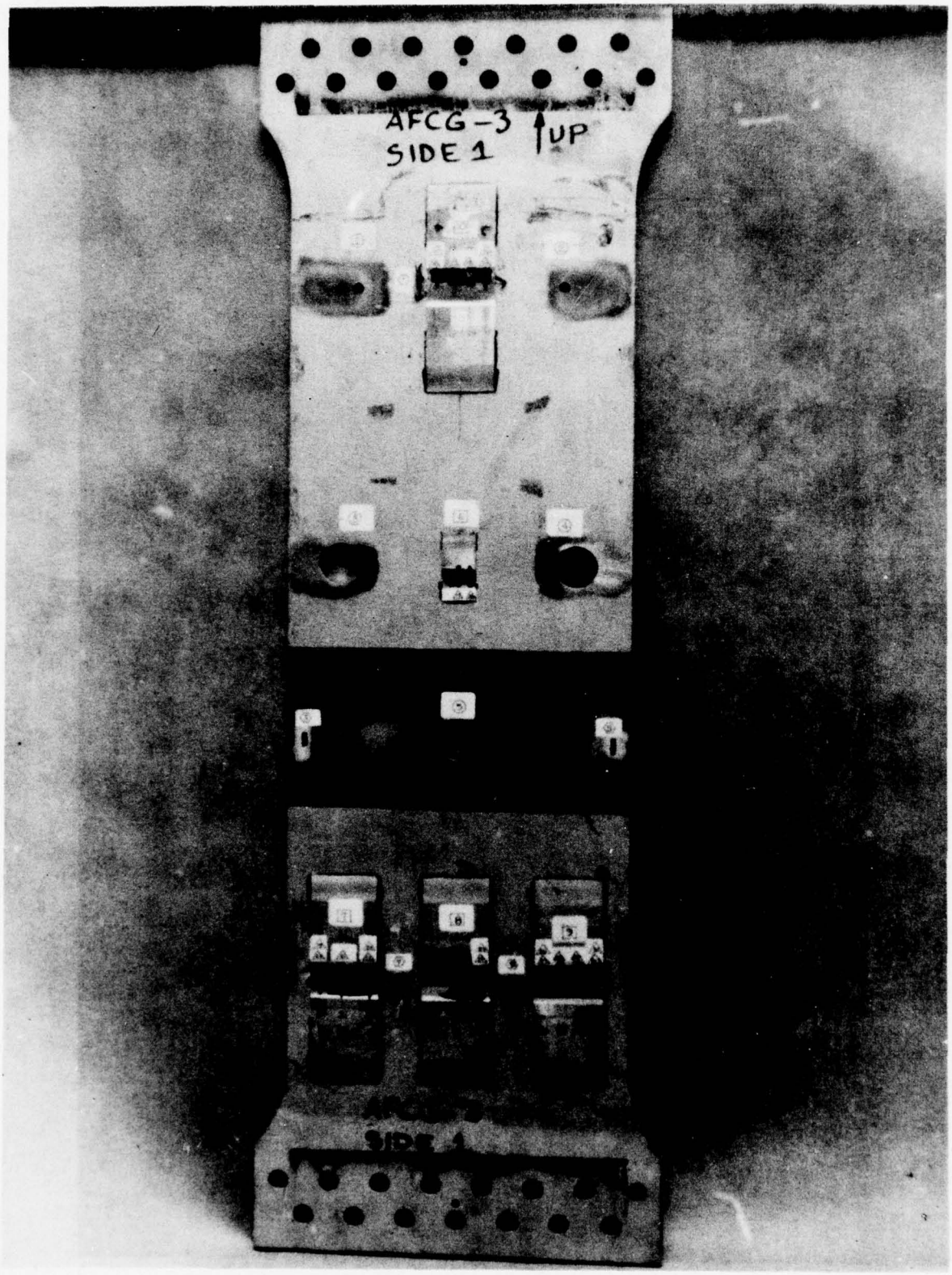

Figure 17. Photograph of Specimen AFCG-3 Side 1

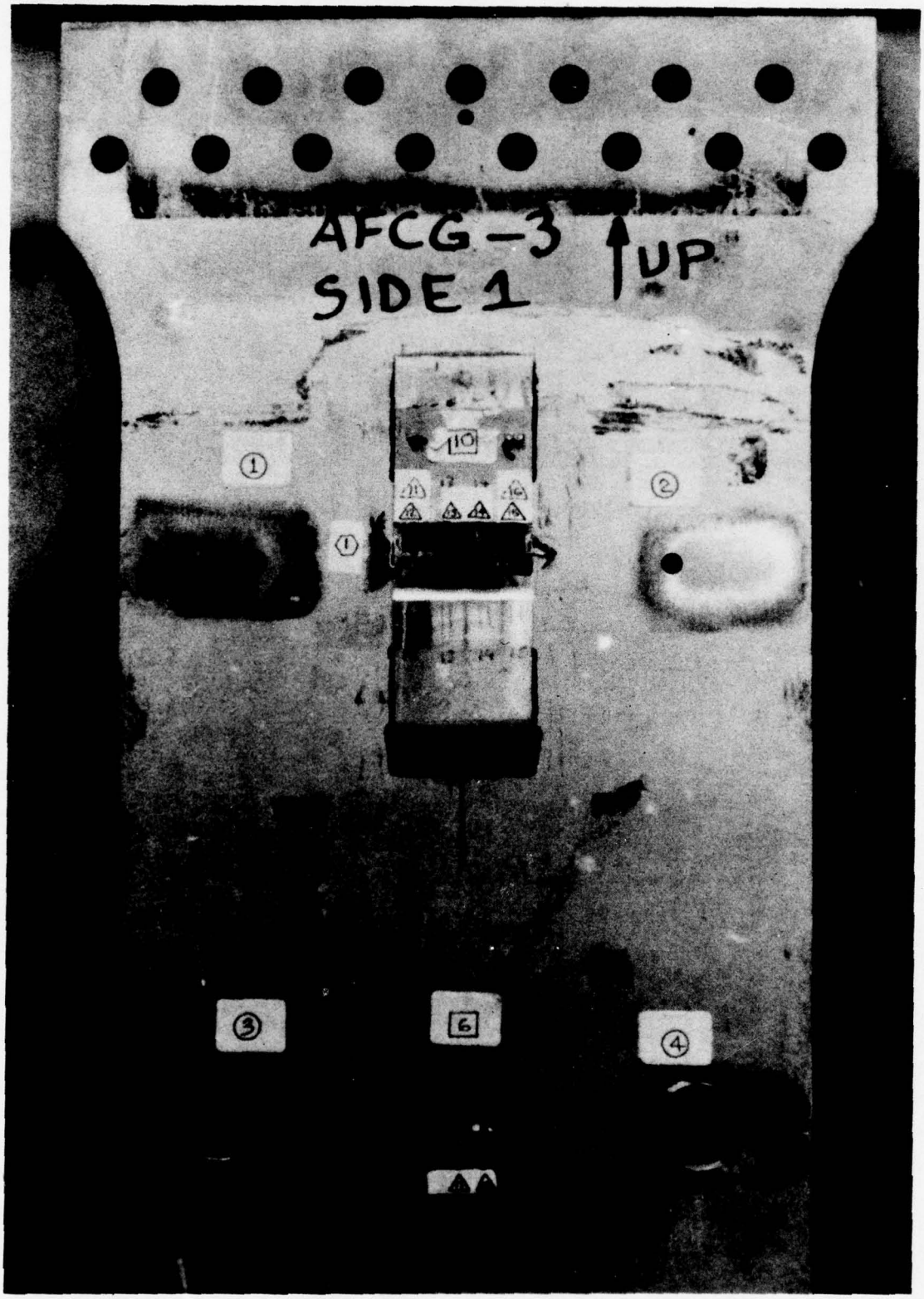

Figure 18. Photograph of Specimen AFCG-3 Side 1 Detail

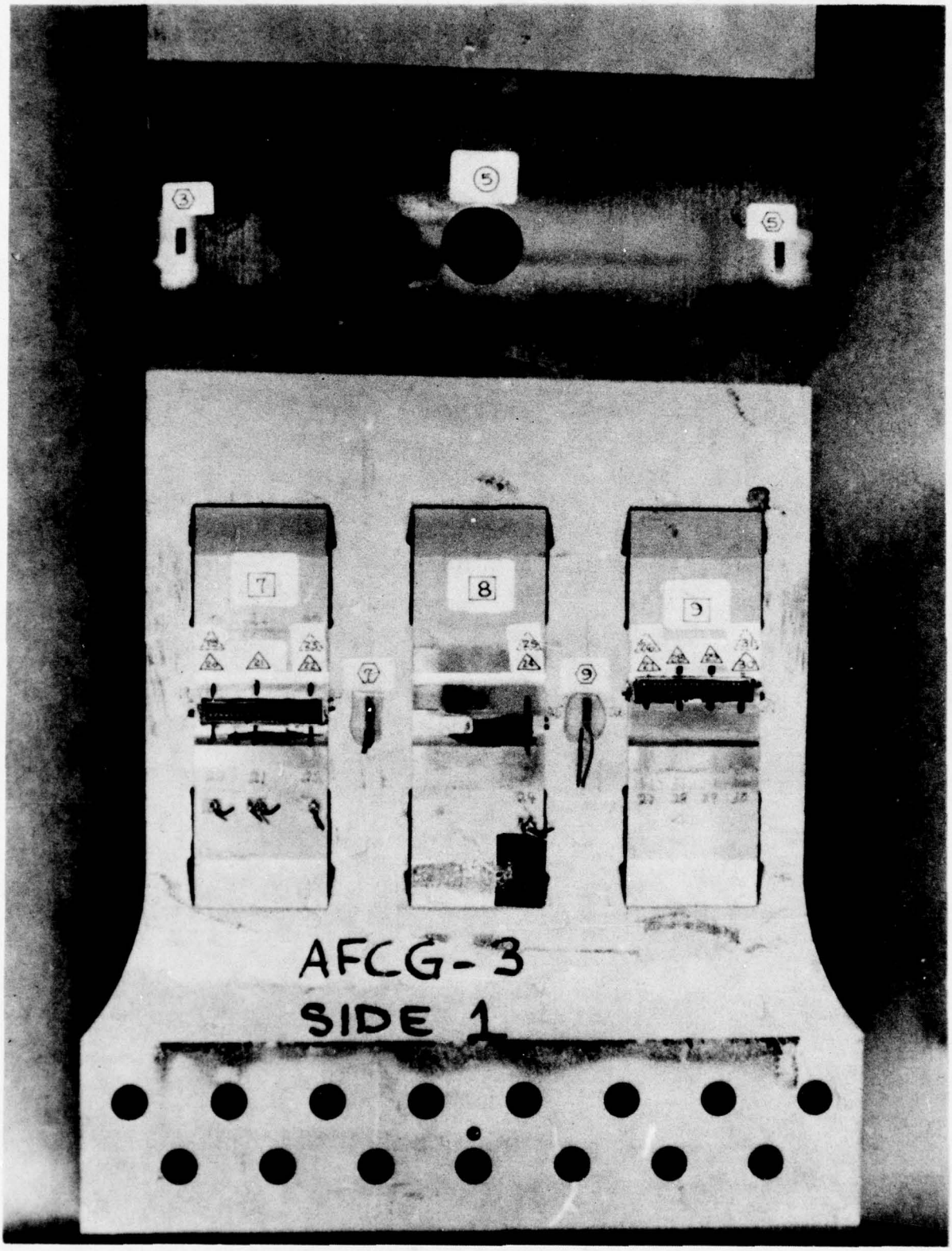

Figure 19. Photograph of Specimen AFCG-3 Side 1 Detail

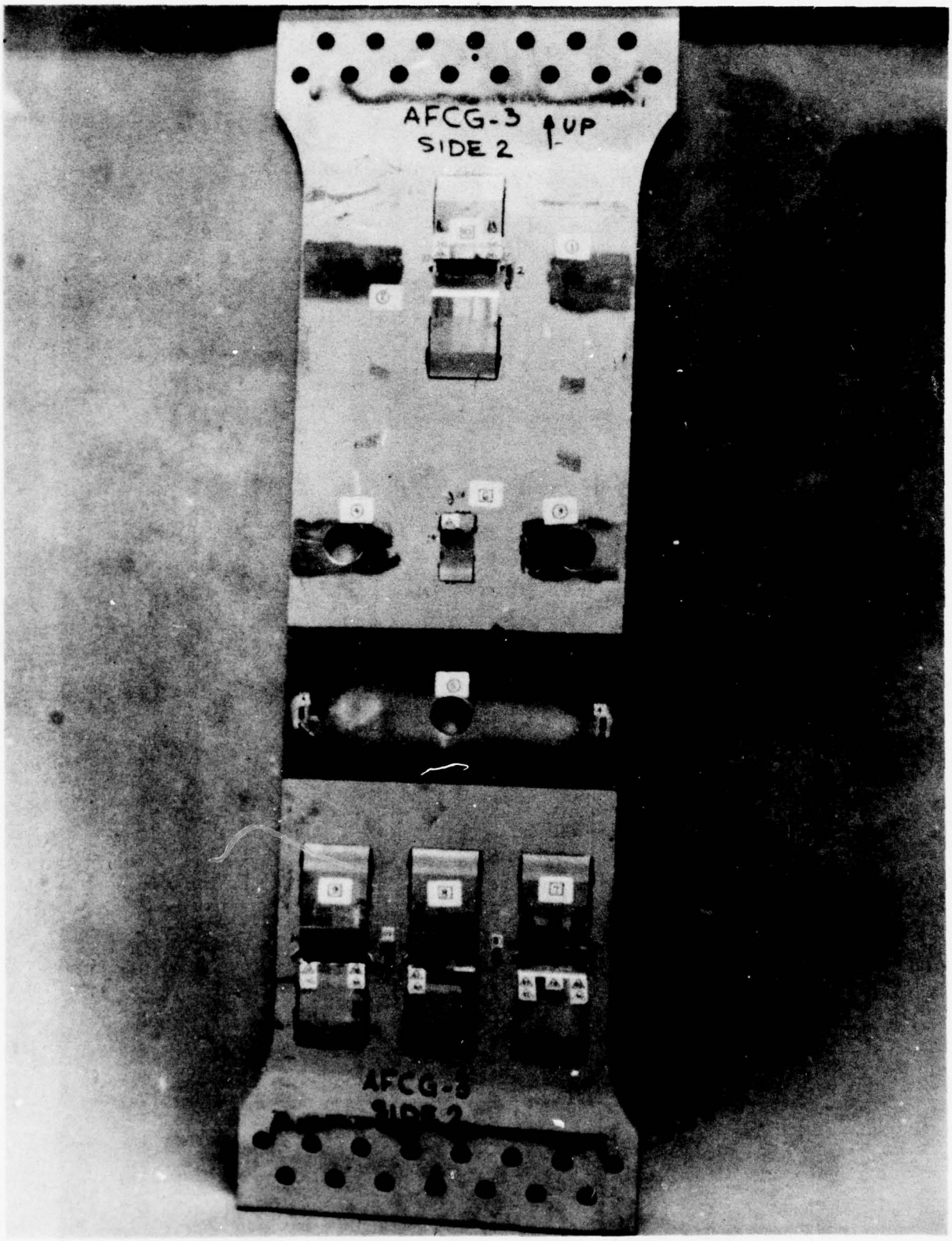

Figure 20. Photograph of Specimen AFCG-3 Side 2

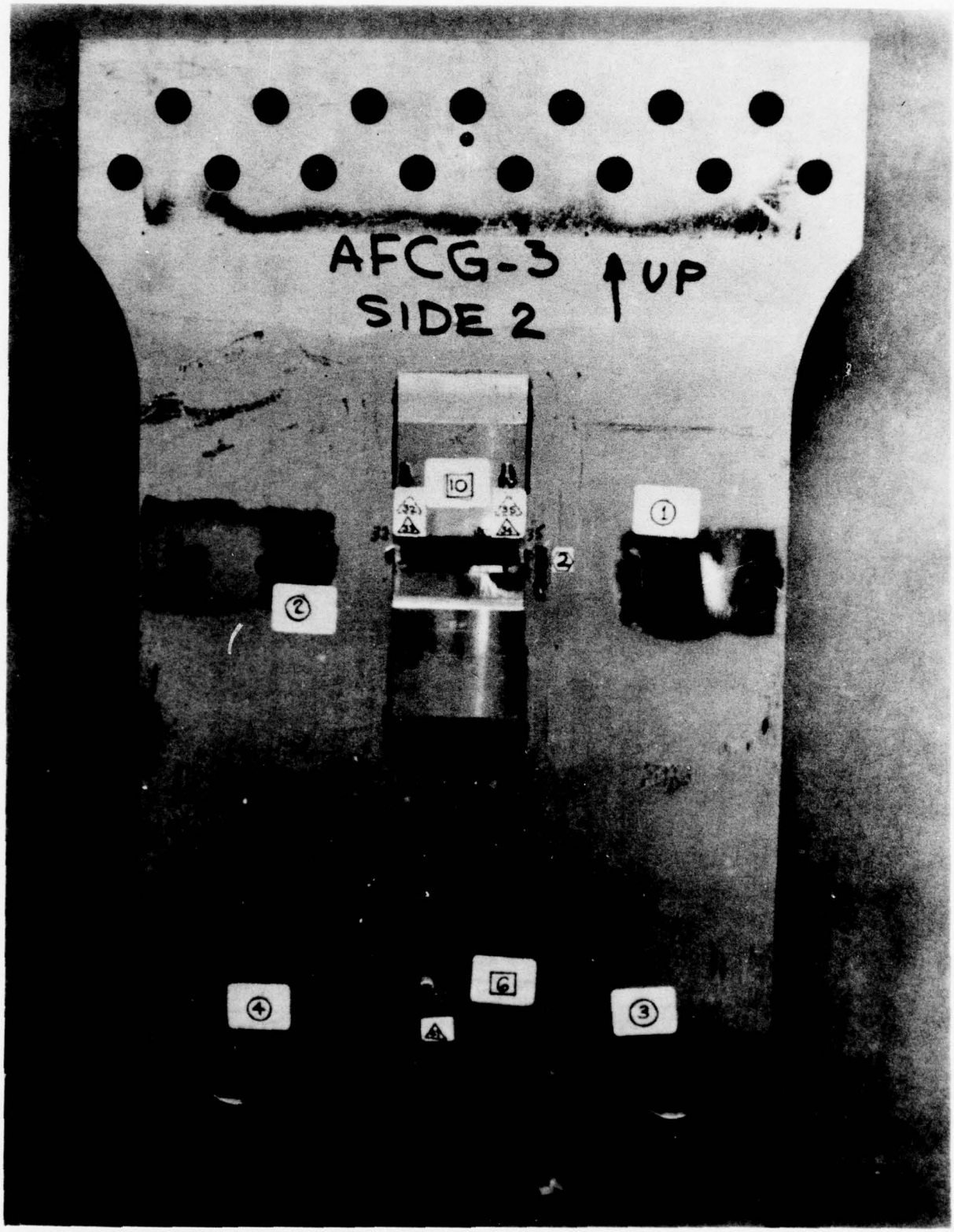

Figure 21. Photograph of Specimen AFCG-3 Side 2 Detail

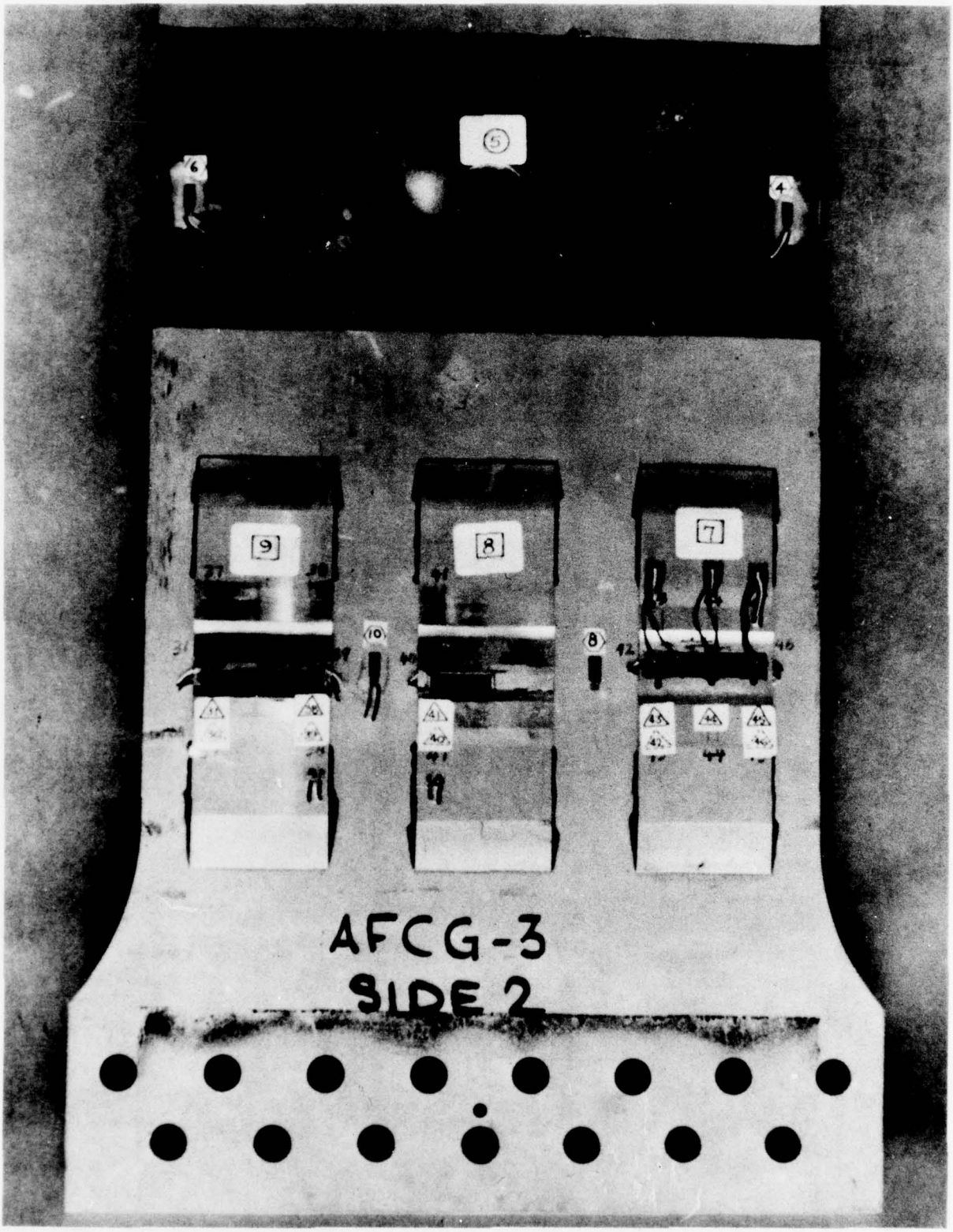

Figure 22. Photograph of Specimen AFCG-3 Side 2 Detail

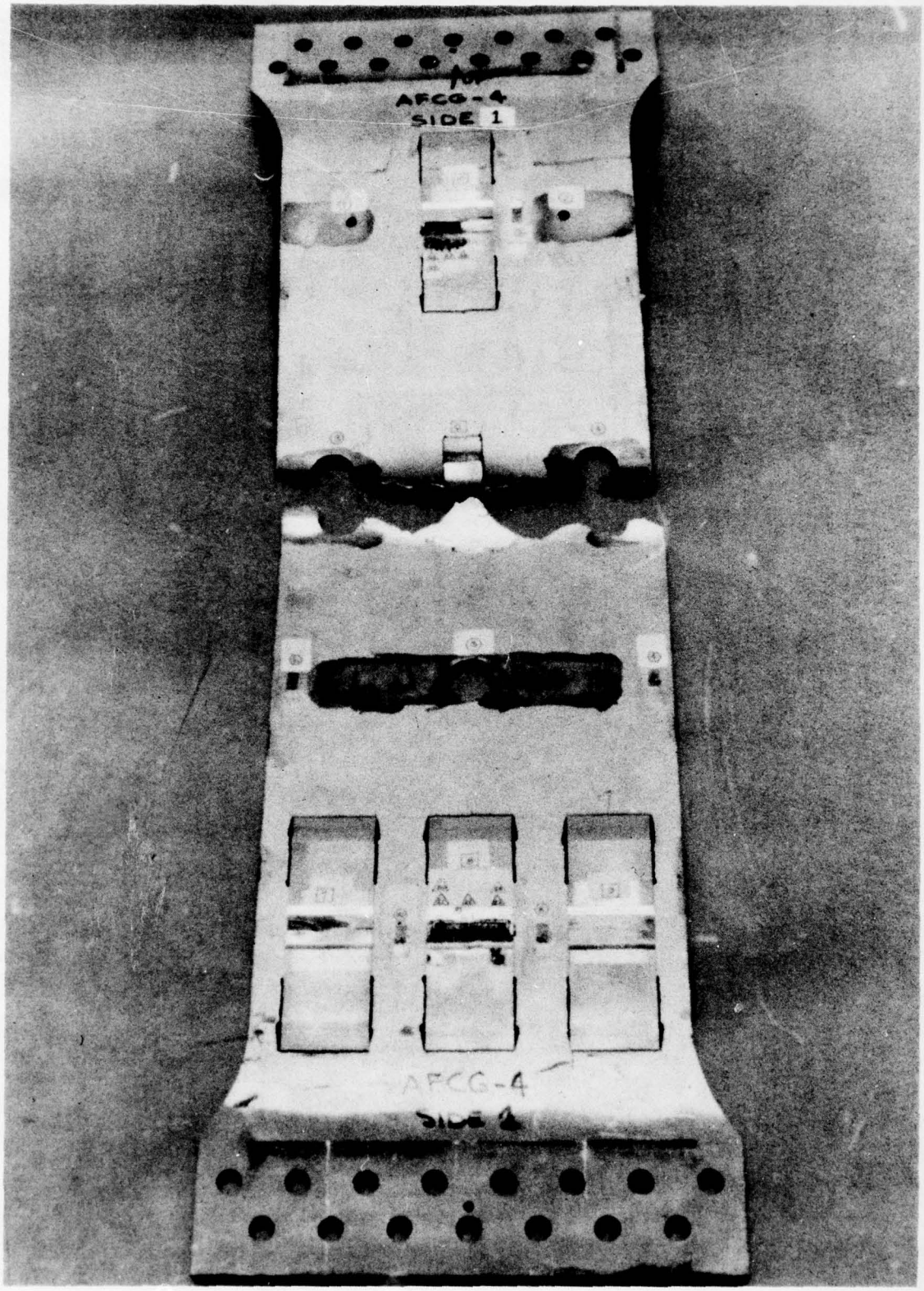

Figure 23. Photograph of Specimen AFCG-4 Side 1

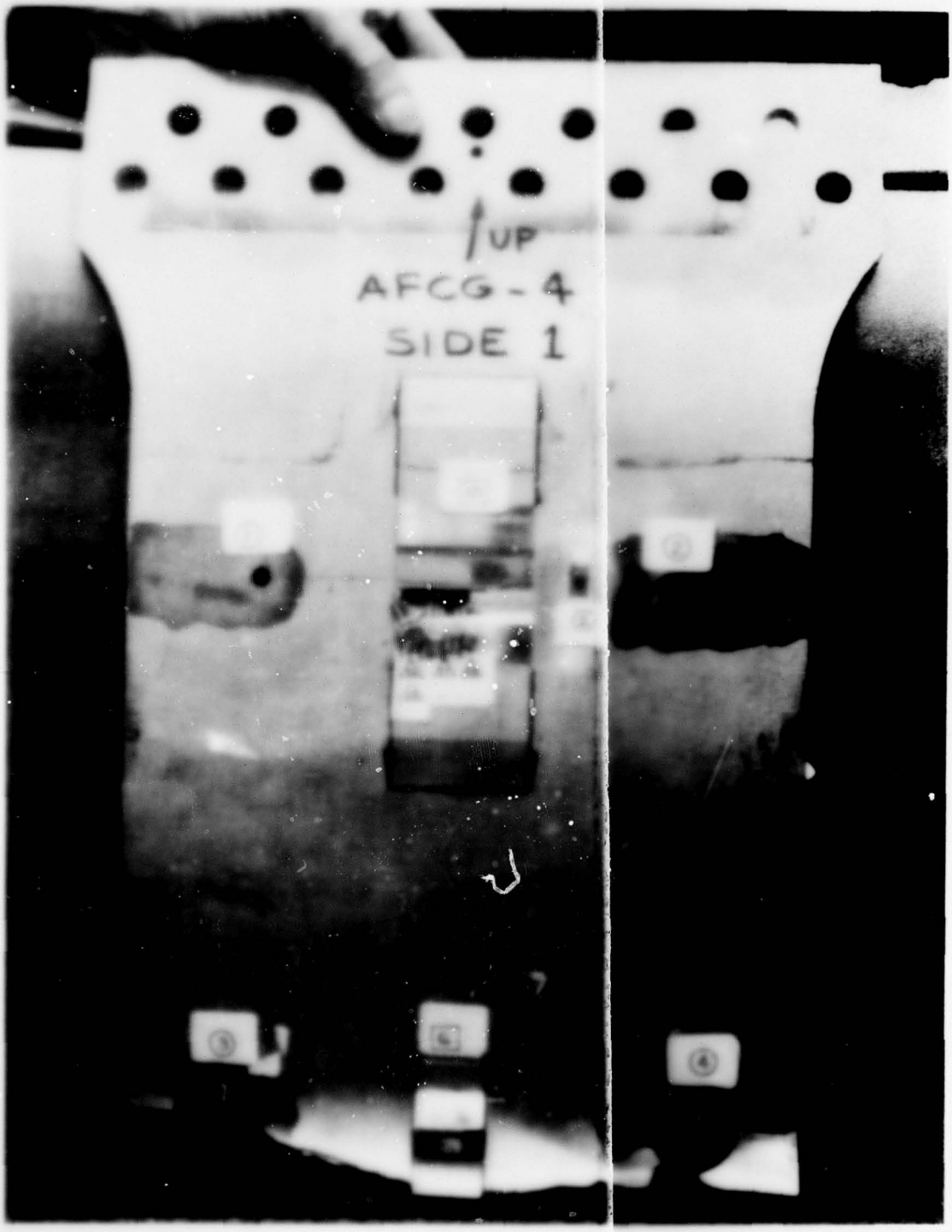

Figure 24. Photograph of Specimen AFCG-4 Side 1 Detail

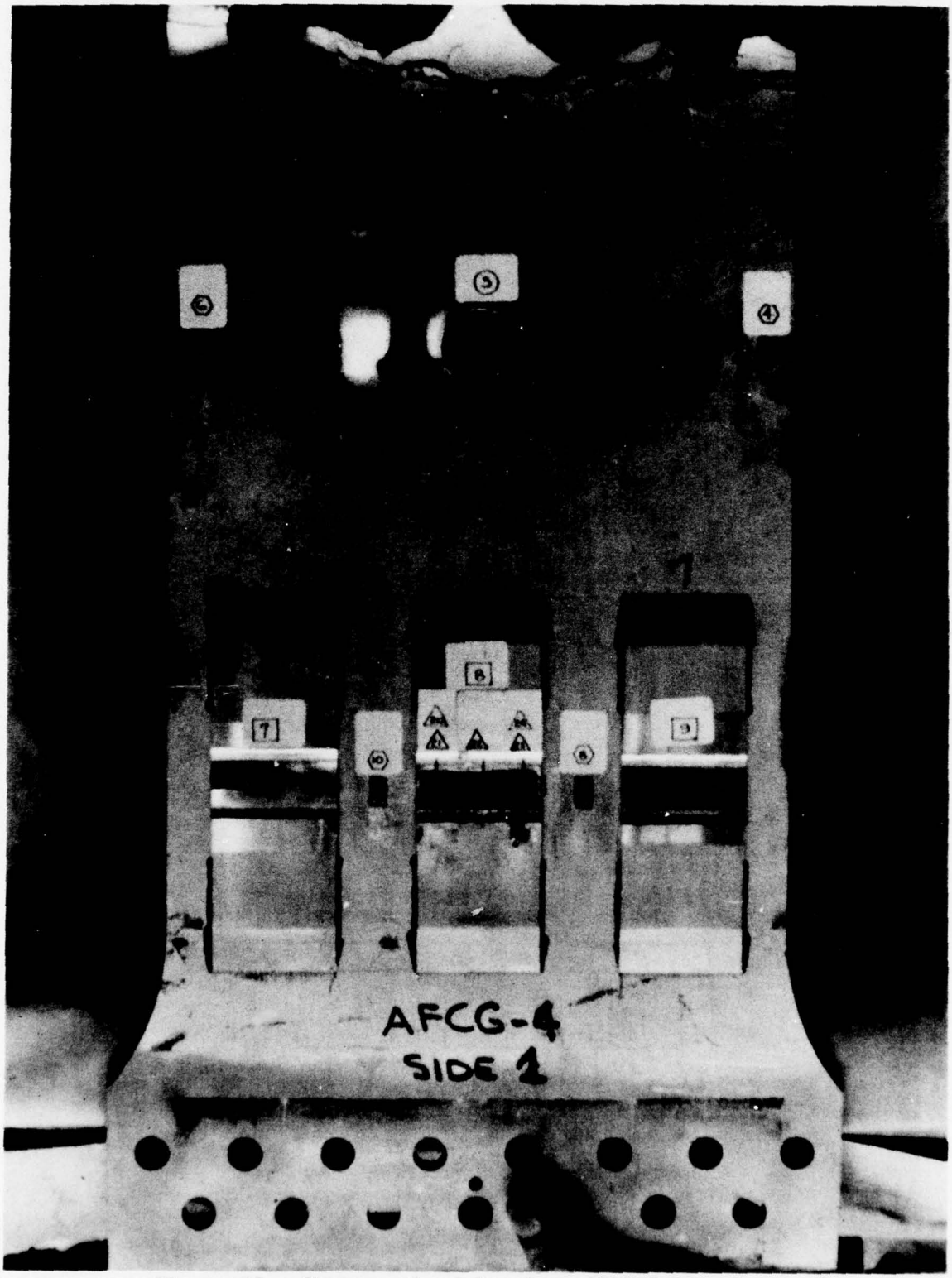

Figure 25. Photograph of Specimen AFCG-4 Side 1 Detail

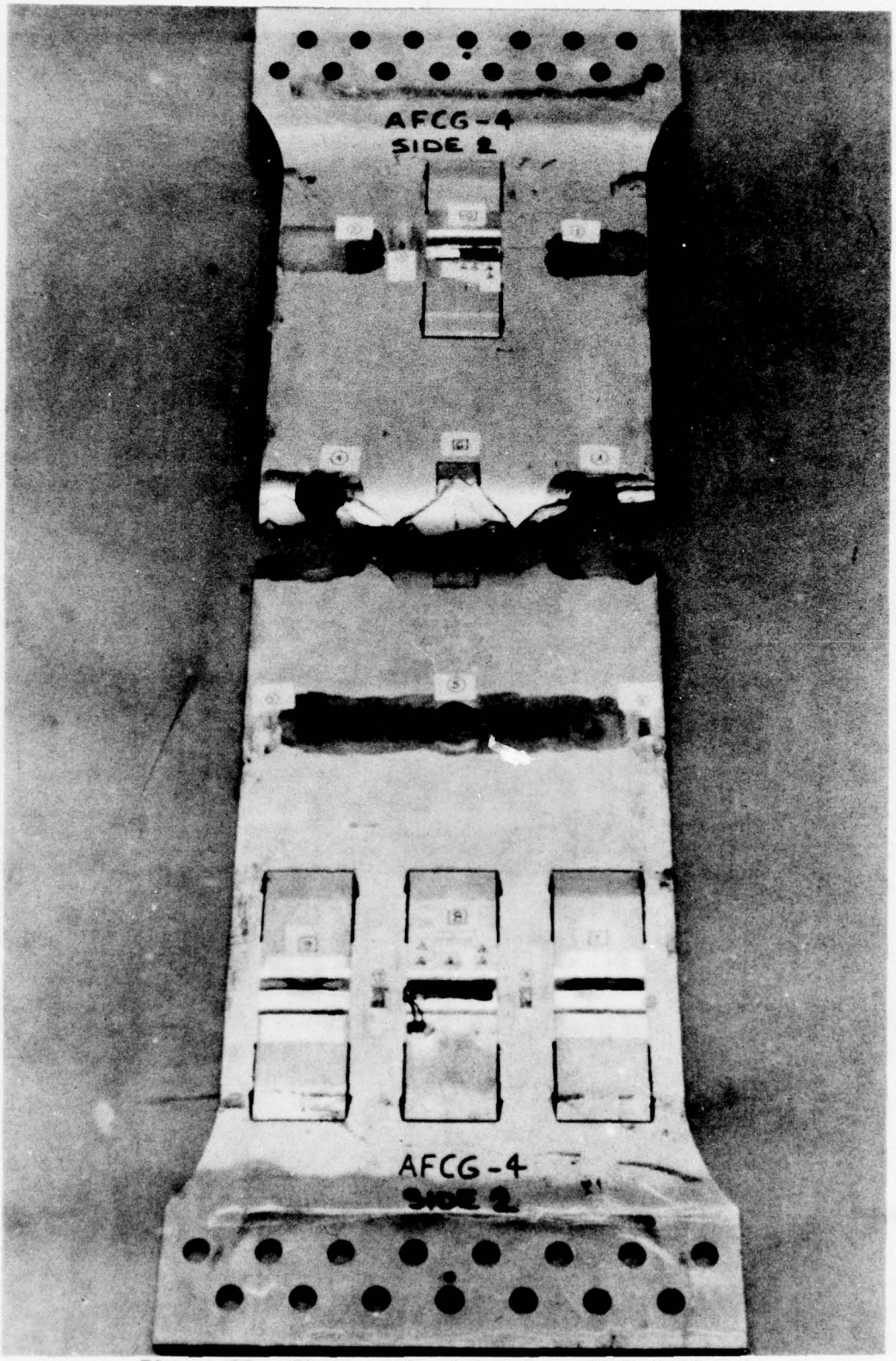

Figure 26. Photograph of Specimen AFCG-4 Side 2

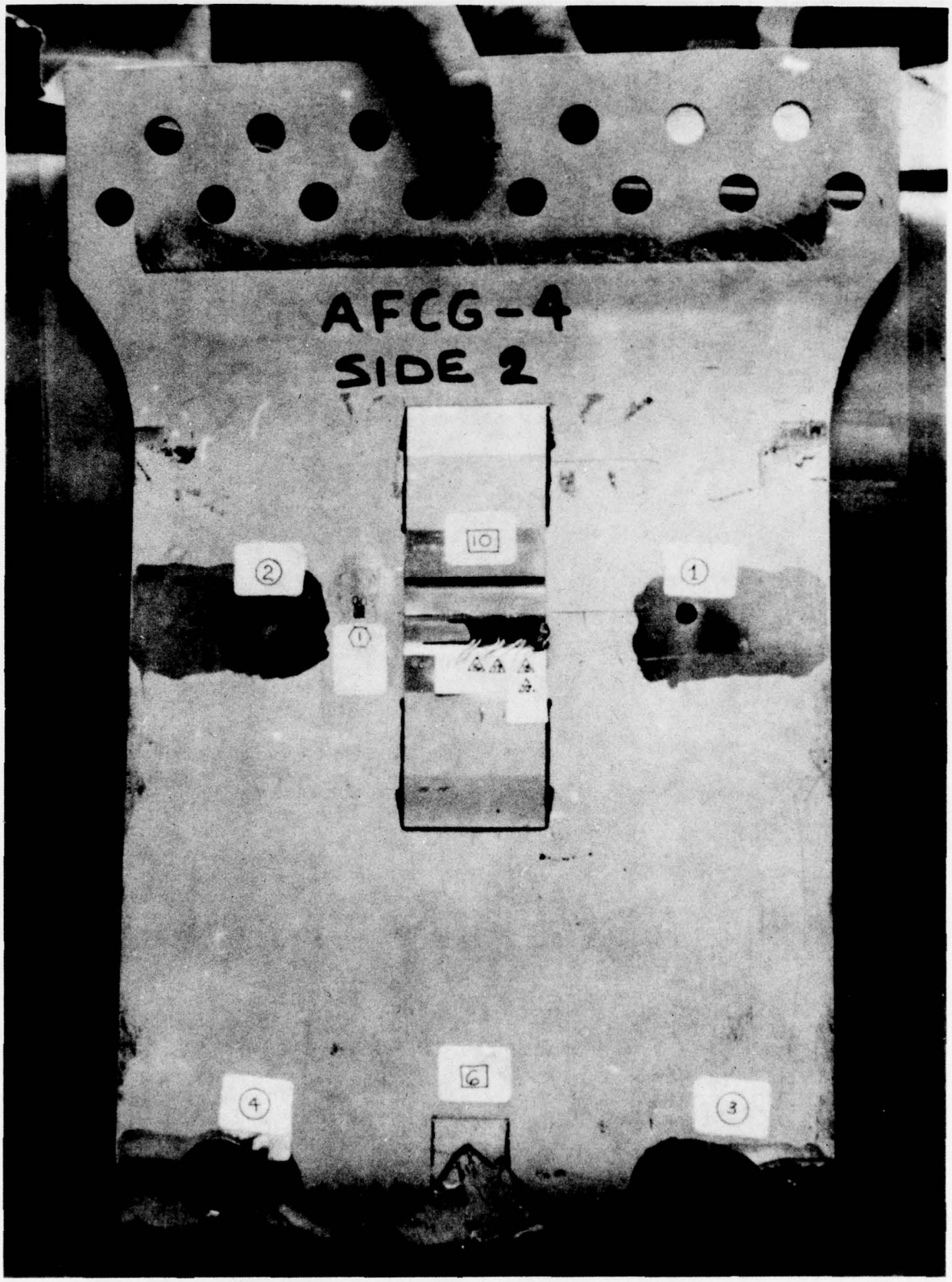

Figure 27. Photograph of Specimen AFCG-4 Side 2 Detail

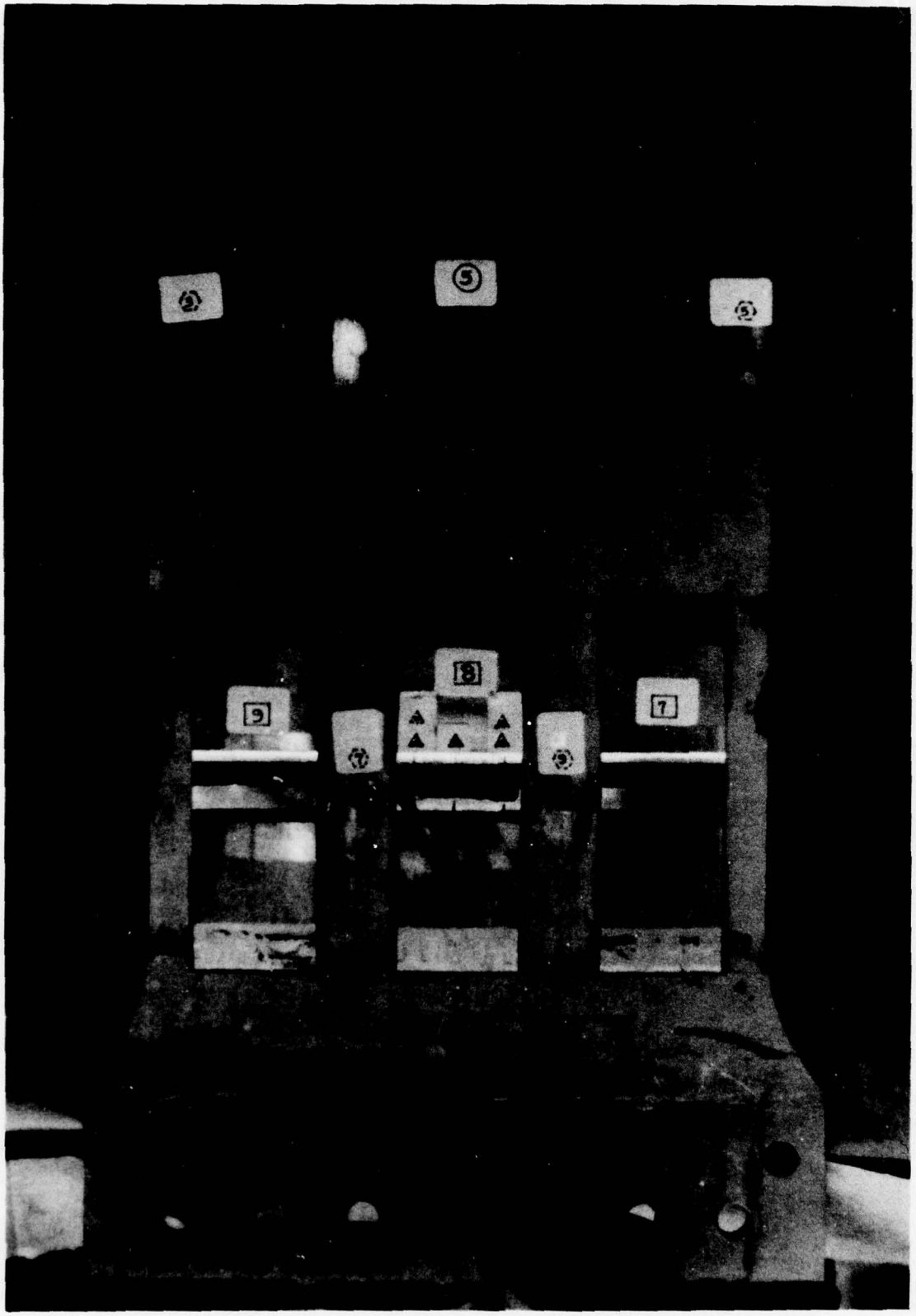

Figure 28. Photograph of Specimen AFCG-4 Side 2 Detail

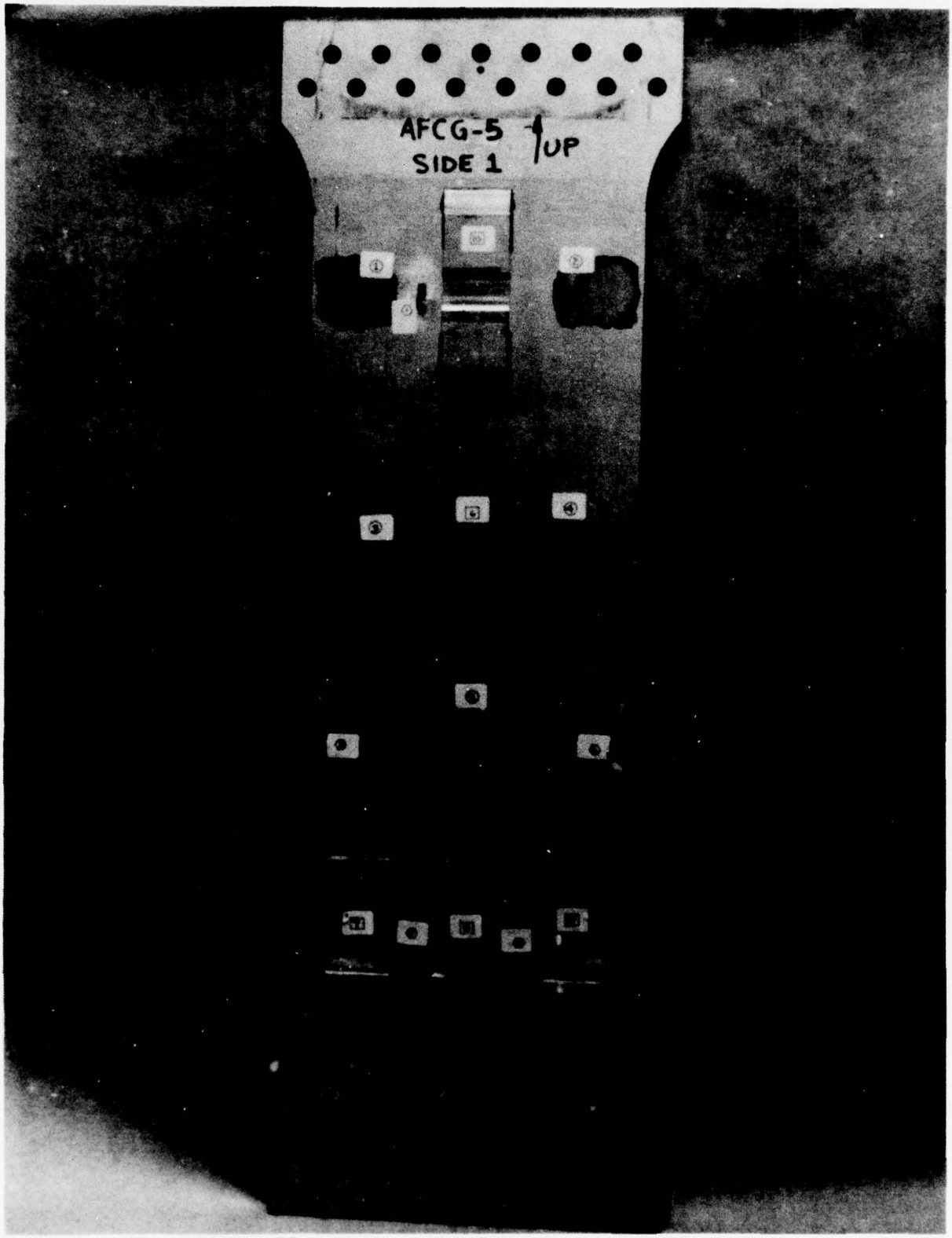

Figure 29. Photograph of Specimen AFCG-5 Side 1

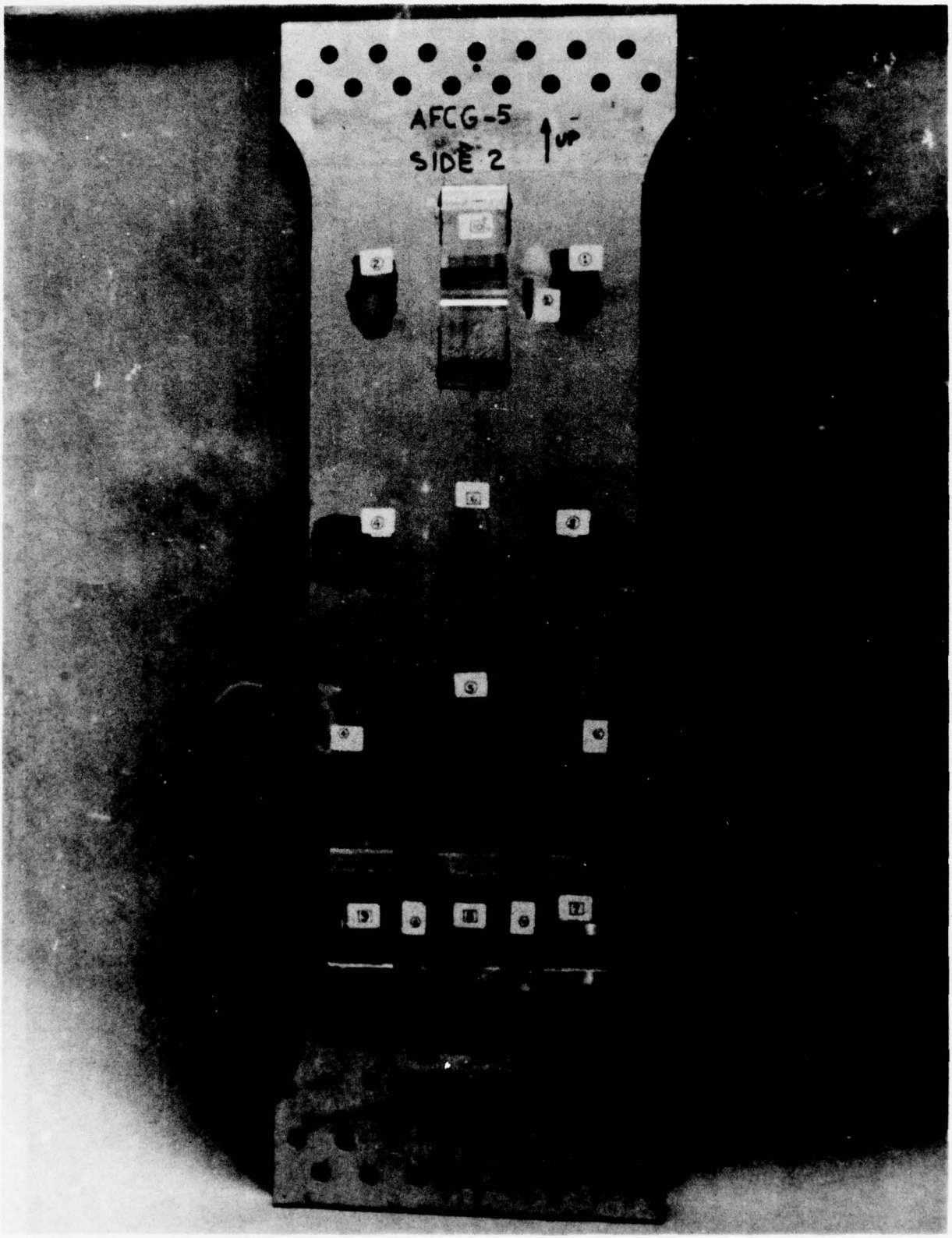

Figure 30. Photograph of Specimen AFCG-5 Side 2

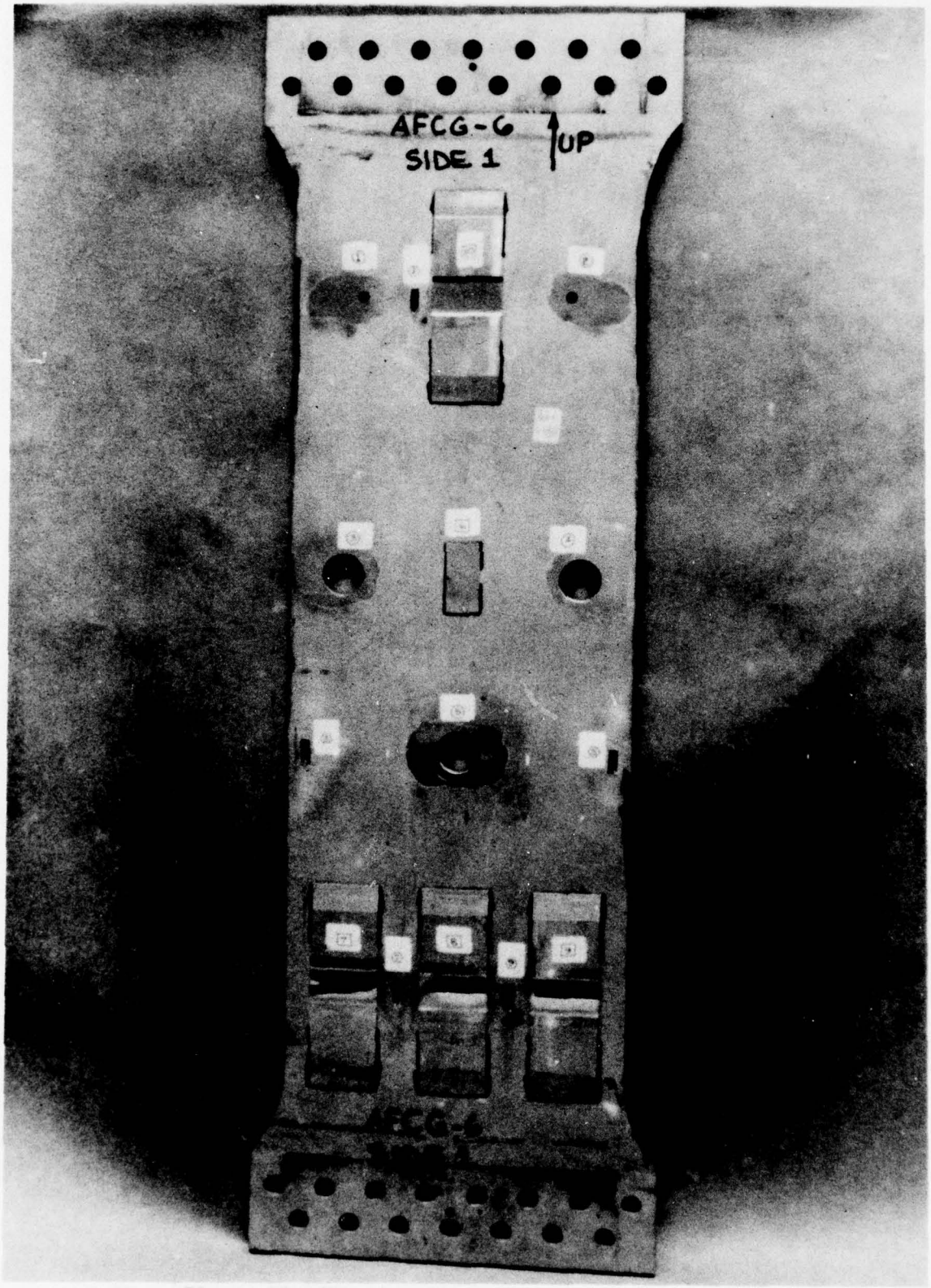

Figure 31. Photograph of Specimen AFCG-6 Side 1

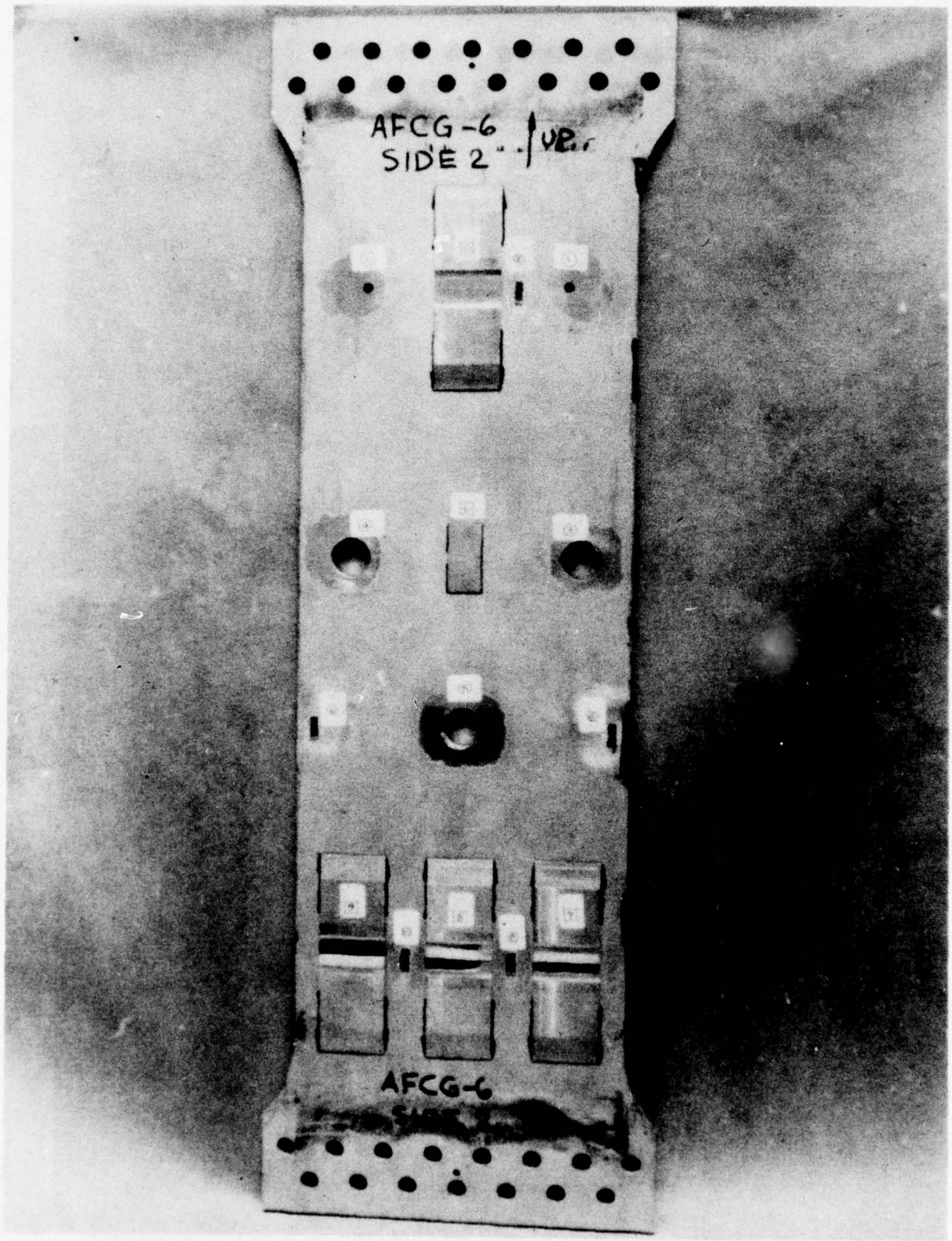

Figure 32. Photograph of Specimen AFCG-6 Side 2

Table 15. Strain Gage Results at Start of Test - AFCG-1

H.F. ~ HANGING FREE B.I. ~ BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: AT START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F.	0 BI	5	10	15	20	25	30	35	37.4	0 B.I.	
1	.01	.07	1.18	2.33	3.55	4.76	6.01	7.24	8.48	9.05	-.01	
2	-.01	.28	1.37	2.55	3.73	4.93	6.17	7.42	8.69	9.32	.35	
3	.01	-.28	1.13	2.50	3.83	5.19	6.53	7.81	9.10	9.70	-.35	
4	0	-.04	1.35	2.70	4.05	5.36	6.70	7.99	9.32	9.97	.02	
5	0	-.97	1.61	4.33	7.14	9.95	12.84	15.69	18.60	20.00	-.90	
6	0	.94	37.9	6.63	9.50	12.30	15.17	17.97	20.79	22.16	.94	

Table 16. Strain Gage Results at Start of Test - Crack Gages on AFCG-2

H.F. ~ HANGING FREE B.I. ~ BOLTED IN.

STRAIN GAGE NO.	TEST CONDITION: AT START OF TEST. MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F.	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1	.04	.38	3.05	5.71	8.42	11.11	13.78	16.53	19.23	21.20	.50	
2	.00	.13	3.15	6.07	8.95	11.78	14.56	17.37	20.15	22.13	.09	
3	.06	.21	2.97	5.79	8.67	11.55	14.36	17.27	20.18	22.27	.27	
4	.06	.29	2.89	5.56	8.32	11.08	13.82	16.64	19.46	21.51	.46	
5	.01	.31	3.35	6.31	9.26	12.14	14.95	17.82	20.62	22.63	.17	
6	.03	.20	1.42	2.68	3.97	5.26	6.52	7.82	9.10	10.02	.19	
7	.01	.04	1.27	2.50	3.76	5.03	6.28	7.55	8.81	9.72	.07	
8	.02	.02	1.25	2.49	3.77	5.04	6.29	7.58	8.84	9.76	.05	
9	.02	.06	1.35	2.64	3.98	5.31	6.62	7.97	9.29	10.25	.08	
10	.02	.52	3.00	5.45	7.94	10.45	12.92	15.48	17.98	19.81	.59	
11	.03	.92	3.55	6.19	8.83	11.43	13.99	16.61	19.17	21.02	1.08	
12	.04	.38	2.65	4.91	7.24	9.55	11.85	14.21	16.55	18.25	.62	
13	-.01	-.02	2.55	5.08	7.66	10.20	12.71	15.29	17.81	19.63	.04	
14	-.01	.58	2.73	4.96	7.28	9.62	11.96	14.39	16.81	18.58	.83	
15	-.04	.66	3.17	5.62	8.09	10.51	12.88	15.31	17.68	19.39	.52	
16	-.01	.61	2.93	5.29	7.74	10.21	12.66	15.17	17.66	19.48	.65	
17	-.01	.65	2.93	5.28	7.70	10.13	12.54	15.03	17.50	19.29	.68	
18	.02	.67	3.16	5.69	8.30	10.95	13.55	16.25	18.91	20.85	.71	
19	-.00	.63	3.13	5.63	8.19	10.73	13.23	15.79	18.31	20.11	.29	
20	.00	.60	3.03	5.48	8.00	10.50	12.96	15.48	17.97	19.77	.62	
21	-.04	.55	2.98	5.42	7.94	10.45	12.94	15.49	18.00	19.84	.46	
22	-.01	.48	2.84	5.24	7.72	10.17	12.60	15.09	17.55	19.33	.40	
23	-.01	.49	2.80	5.14	7.54	9.95	12.32	14.76	17.17	18.91	.37	
24	-.01	.44	2.81	5.24	7.75	10.25	12.73	15.27	17.78	19.61	.33	

Table 16. Strain Gage Results at Start of Test - Crack Gages on AFCG-2 (Continued)

STRAIN GAGE NO.	TEST CONDITION: AT START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	O H.F.	O B.I.	5	10	15	20	25	30	35	38.5	O B.I.	O H.F.
25	-.03	.46	2.87	5.33	7.87	10.40	12.96	15.47	17.99	19.82	.29	
26	.00	.25	2.60	4.95	7.37	9.78	12.18	14.61	17.03	18.78	.14	
27	-.03	.15	2.66	5.22	7.89	10.52	13.14	15.83	18.49	20.40	.05	
28	.02	.14	2.73	5.35	8.05	10.73	13.38	16.10	18.77	20.69	.04	
29	1.06	1.25	4.08	6.88	9.69	12.46	15.18	17.95	20.66	22.62	1.28	
30	.02	.17	2.66	5.21	7.88	10.55	13.22	15.97	18.68	20.65	.02	
31	-.02	.07	1.40	2.74	4.08	5.42	6.74	8.08	9.39	10.34	.07	
32	.01	.05	1.32	2.59	3.89	5.17	6.44	7.72	8.99	9.90	.05	
33	-.05	.01	1.28	2.54	3.84	5.11	6.36	7.64	8.89	9.80	.01	
34	-.01	.07	1.36	2.66	3.97	5.27	6.54	7.84	9.11	10.06	.07	
35	-.04	-.69	1.46	3.68	6.01	8.33	10.63	13.00	15.34	17.03	.73	
36	.01	-.83	1.66	4.19	6.79	9.34	11.84	14.39	16.90	18.71	-.82	
37	.01	-.29	1.94	4.19	6.50	8.79	11.05	13.37	15.66	17.31	-.44	
38	.04	-.10	2.35	4.84	7.38	9.89	12.37	14.89	17.38	19.18	-.08	
39	.02	-.12	2.33	4.76	7.22	9.67	12.07	14.53	16.94	18.69	-.01	
40	.09	-.03	2.20	4.48	6.79	9.11	11.40	13.76	16.08	17.78	.11	
41	-.04	-.32	2.49	5.32	8.20	11.02	13.80	16.64	19.42	21.43	-.04	
42	.14	12.85	1.65	13.62	17.44	18.79	20.95	25.04	26.88	28.73	6.28	
43	.01	-.53	2.36	5.23	8.15	11.04	13.87	16.77	19.61	21.66	-.35	
44	-.00	-1.07	1.77	4.57	7.40	10.21	12.97	15.78	18.59	20.60	-.92	
45	.01	-.92	1.78	4.43	7.10	9.75	12.35	15.01	17.60	19.46	-.71	

Table 17. Strain Gage Results at 8000 Cycles - Crack Gages on AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION 8000 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1		.62	3.33	6.01	8.65	11.33	13.99	16.61	19.31	21.24	.71	
2												
3												
4		1.13	3.36	6.31	8.96	11.73	14.47	17.19	20.00	22.01	1.21	
5		.02	3.14	6.18	9.12	12.07	14.93	17.74	20.58	22.59	- .07	
6		.49	1.74	3.03	4.30	5.59	6.88	8.15	9.44	10.37	.52	
7		.20	1.42	2.67	3.91	5.18	6.44	7.69	8.96	9.87	.22	
8		.26	1.48	2.74	3.99	5.27	6.55	7.80	9.09	10.00	.29	
9		.28	1.55	2.87	4.18	5.52	6.85	8.17	9.52	10.48	.31	
10		.82	3.28	5.93	8.57	11.33	14.03	16.72	19.47	21.43	.82	
11		1.15	3.86	6.68	9.46	12.29	15.07	17.80	20.59	22.58	1.18	
12		.91	3.17	5.57	7.97	10.46	12.91	15.34	17.84	19.63	.98	
13		.68	3.27	5.98	8.68	11.45	14.17	16.85	19.60	21.56	.67	
14		1.19	3.33	5.60	7.88	10.24	12.58	14.91	17.32	19.06	1.27	
15		.65	3.20	5.72	8.17	10.66	13.10	15.50	17.93	19.65	.62	
16		1.16	3.49	6.01	8.53	11.14	13.72	16.30	18.93	20.83	1.19	
17		1.00	3.29	5.71	8.12	10.61	13.09	15.55	18.07	19.88	1.03	
18		.53	3.04	5.69	8.21	10.75	13.26	15.76	18.31	20.11	.53	
19		.50	3.08	5.72	8.33	11.00	13.63	16.24	18.89	20.78	.46	
20												
21		.76	3.24	5.83	8.43	11.10	13.73	16.36	19.04	20.98	.79	
22		.25	2.58	4.84	6.98	9.16	11.32	13.46	15.65	17.19	.26	
23		.01	2.23	4.32	6.34	8.41	10.44	12.47	14.54	16.00	.02	
24		.80	3.23	5.79	8.37	11.02	13.66	16.28	18.97	20.90	.81	

Table 17. Strain Gage Results at 8000 Cycles - Crack Gages on AFCG-2 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION 8000 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
25		.64	3.10	5.66	8.25	10.90	13.52	16.14	18.82	20.73	.64	
26												
27		.08	2.56	5.14	7.72	10.39	13.03	15.65	18.35	20.27	.07	
28		.19	2.80	5.45	8.10	10.81	13.49	16.14	18.85	20.78	.11	
29		1.28	4.06	6.85	9.59	12.38	15.11	17.81	20.55	22.49	1.27	
30		.10	2.62	5.21	7.81	10.52	13.22	15.90	18.65	20.62	0	
31		.20	1.51	2.86	4.18	5.55	6.89	8.22	9.57	10.53	.20	
32		.27	1.53	2.81	4.09	5.38	6.66	7.92	9.20	10.12	.27	
33		.16	1.43	2.71	3.97	5.26	6.53	7.78	9.06	9.97	.17	
34		.20	1.49	2.79	4.08	5.39	6.68	7.95	9.25	10.16	.22	
35		- .73	1.43	3.71	6.05	8.47	10.87	13.27	15.74	17.51	- .72	
36		- .65	1.85	4.45	7.03	9.68	12.29	14.86	17.50	19.39	- .61	
37		- .50	1.75	4.08	6.42	8.82	11.19	13.54	15.95	17.65	- .53	
38		- .20	2.24	4.78	7.32	9.94	12.52	15.05	17.66	19.51	- .17	
39		.05	2.47	4.92	7.34	9.80	12.24	14.64	17.08	18.82	.05	
40		.25	2.42	4.69	6.95	9.29	11.60	13.88	16.22	17.90	.27	
41		.20	2.96	5.87	8.78	11.77	14.71	17.60	20.57	22.69	.26	
42		.31	2.80	5.41	8.08	10.83	13.55	16.24	19.00	20.96	.29	
43		- .23	2.63	5.68	8.63	11.62	14.56	17.45	20.40	22.49	- .21	
44		- .16	2.60	5.46	8.35	11.32	14.25	17.15	20.12	22.24	- .20	
45		.52	3.12	5.84	8.59	11.42	14.20	16.96	19.74	21.73	.52	

Table 18. Strain Gage Results at 17800 Cycles - Crack Gages on AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 17,800 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1		.55	3.17	5.86	8.48	11.13	13.78	16.45	19.09	21.02	.53	
2												
3												
4		.98	3.42	6.08	8.75	11.48	14.23	17.00	19.75	21.77	1.00	
5		.19	3.41	6.44	9.15	12.27	15.11	17.95	20.74	22.75	.16	
6		.68	1.88	3.17	4.45	5.74	7.03	8.32	9.61	10.54	.66	
7		.31	1.51	2.77	4.01	5.28	6.55	7.82	9.08	10.00	.32	
8		.35	1.55	2.82	4.08	5.35	6.63	7.91	9.18	10.11	.36	
9		.37	1.62	2.95	4.27	5.60	6.95	8.30	9.62	10.60	.38	
10		-.13	2.27	4.82	7.10	9.80	12.31	14.81	17.28	19.04	-.16	
11		.08	2.89	5.82	8.24	10.63	13.00	15.37	17.69	19.32	.07	
12		1.16	3.46	6.27	9.07	11.88	14.71	17.57	20.39	22.46	1.23	
13		.44	3.10	6.03	8.75	11.47	14.17	16.86	19.52	21.42	.42	
14												
15		.74	3.17	5.98	8.80	11.05	13.57	16.09	18.55	20.36	.74	
16		.92	3.20	5.96	8.65	11.39	14.12	16.88	19.61	21.60	.85	
17		1.25	3.54	6.12	8.69	11.34	13.99	16.67	19.32	21.28	1.25	
18		-1.70	.53	1.41	1.90	2.33	2.75	3.17	3.59	3.86	-1.66	
19		.80	3.53	6.41	9.31	12.25	15.16	18.07	20.96	23.08	.75	
20												
21		.58	3.13	5.89	8.60	11.35	14.08	16.84	19.56	21.54	.59	
22		-1.27	.54	1.10	1.53	1.96	2.44	2.92	3.40	3.72	-1.25	
23		-1.21	.31	.85	1.22	1.62	2.04	2.47	2.89	3.17	-1.21	
24		.42	2.87	5.54	8.15	10.82	13.48	16.16	18.82	20.74	.41	

Table 18. Strain Gage Results at 17800 Cycles - Crack Gages on AFCG-2 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 17,800 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
25		.95	3.50	6.34	9.20	12.14	15.07	18.03	20.96	23.11	.94	
26												
27		-.10	2.44	5.03	7.60	10.24	12.88	15.53	18.18	20.09	-.10	
28		.33	3.02	5.68	8.30	10.97	13.63	16.32	18.97	20.90	.31	
29		1.12	3.96	6.76	9.49	12.23	14.96	17.68	20.37	22.31	1.13	
30		.14	2.77	5.36	7.95	10.61	13.30	16.01	18.71	20.67	.11	
31		.37	1.69	3.05	4.39	5.75	7.10	8.45	9.79	10.74	.38	
32		.37	1.63	2.92	4.19	5.48	6.77	8.05	9.32	10.24	.37	
33		.32	1.59	2.90	4.16	5.45	6.72	7.99	9.26	10.17	.34	
34		.35	2.06	5.00	9.66	10.86	13.28	28.19	50.24	65.35	.59	
35		-.52	1.68	4.05	6.51	9.07	11.61	14.20	16.78	18.67	-.49	
36		-.45	2.06	4.76	7.50	10.28	13.05	15.83	18.59	20.60	-.41	
37		-.35	1.96	4.40	6.89	9.44	11.98	14.53	17.07	18.91	-.36	
38		-.02	2.44	5.12	7.83	10.61	13.36	16.14	18.90	20.88	.03	
39		.15	2.59	5.06	7.51	10.00	12.47	14.95	17.39	19.16	.16	
40		.28	2.46	4.76	7.06	9.41	11.77	14.13	16.49	18.19	.31	
41		.62	3.36	6.54	9.79	13.08	16.37	19.67	22.93	25.29	.68	
42		.29	2.78	5.50	8.38	11.30	14.20	30.59	35.62	31.73	7.90	
43		-2.16	.58	3.02	4.41	5.74	7.00	8.27	9.52	10.39	-2.16	
44		.14	2.84	5.93	9.17	12.49	15.79	19.13	22.45	24.83	.07	
45		.86	3.44	6.32	9.41	12.56	15.69	18.81	21.88	24.12	.86	

Table 19. Strain Gage Results at 26800 Cycles - Crack Gages on AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 26,800 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1		.39	3.00	5.70	8.37	11.02	13.66	16.34	19.01	20.92	.39	
2												
3												
4		.85	3.38	6.04	8.74	11.44	14.17	16.94	19.72	21.70	.94	
5		.26	3.35	6.40	9.38	12.28	15.14	18.01	20.83	22.82	.16	
6		.55	1.79	3.09	4.39	5.66	6.95	8.26	9.55	10.47	.56	
7		.29	1.50	2.77	4.03	5.29	6.55	7.83	9.10	10.00	.30	
8		.46	1.79	3.23	4.89	6.04	7.27	8.68	10.49	10.69	.72	
9		.29	1.57	2.90	4.25	5.58	6.91	8.27	9.61	10.57	.31	
10		-2.54	-1.90	-1.55	- 1.10	- .89	- .91	- .94	- .96	- .98	-2.50	
11		- .68	1.91	2.29	2.54	2.68	2.70	2.72	2.75	2.76	- .64	
12		-2.39	-1.31	- .67	- .21	.05	.03	.03	.03	.04	-2.35	
13		-1.43	.28	.68	.87	1.08	1.07	1.07	1.07	1.07	-1.38	
14		1.46	3.71	6.17	8.70	11.23	13.81	16.43	19.06	20.96	1.58	
15		1.00	3.62	6.38	9.11	11.80	14.51	17.22	19.89	21.78	.95	
16		-1.59	.71	2.24	3.28	4.21	5.11	6.02	6.91	7.51	-1.55	
17		1.43	3.86	6.68	9.56	12.43	15.34	18.28	21.22	23.32	1.47	
18		-1.39	.65	.85	.93	.97	1.00	.99	.99	.98	-1.33	
19		- .97	1.65	4.15	6.38	8.52	10.67	12.83	14.98	16.43	-1.06	
20												
21		-2.06	.19	1.23	1.89	2.50	3.23	3.93	4.64	5.11	-2.03	
22		-1.21	.07	- .11	- .27	- .40	- .52	- .59	- .62	- .65	-1.16	
23		-1.06	-.12	- .14	- .17	- .21	- .23	- .23	- .20	- .20	-1.02	
24		-1.90	.20	1.21	1.91	2.58	3.27	3.97	4.67	5.14	-1.87	

Table 19. Strain Gage Results at 26800 Cycles - Crack Gages on AFCG-2 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 26,800 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
25		- .93	1.55	3.94	6.08	8.15	10.24	12.34	14.41	15.84	- .96	
26												
27		- .18	2.33	4.91	7.53	10.13	12.78	15.46	18.13	20.03	- .19	
28		.47	3.06	5.72	8.40	11.05	13.73	1644	19.12	21.04	.39	
29		1.06	3.84	6.63	9.40	12.13	14.86	17.60	20.32	22.24	1.05	
30		.27	2.77	5.37	8.02	10.67	13.37	16.10	18.83	20.78	.16	
31		.40	1.73	3.09	445	5.80	7.16	8.53	9.88	10.84	.40	
32		.41	1.69	2.98	4.28	5.56	6.84	8.13	9.41	10.33	.42	
33		.29	1.57	2.92	4.21	5.48	6.76	8.05	9.31	10.21	.31	
34		.50	14.90	27.97	81.79	54.27	64.78	50.20			.72	
35		- .39	1.79	4.27	7.01	9.77	12.57	15.41	18.26	20.30	- .38	
36		- .29	2.24	5.10	8.09	11.02	13.98	16.96	19.93	22.03	- .25	
37		- .30	1.96	4.54	7.28	10.00	12.73	15.50	18.23	20.18	- .36	
38		.17	2.65	5.50	8.51	11.50	14.51	17.55	20.57	22.73	.21	
39		.20	2.60	5.12	7.70	10.25	12.82	15.39	17.93	19.75	.20	
40		.39	2.58	4.91	7.34	9.75	12.18	14.64	17.08	18.83	.43	
41		-2.57	.16	2.51	4.22	5.81	7.38	8.92	10.41	11.11	-2.65	
42		-2.30	-.02	.65	1.14	1.62	2.13	2.68	3.22	3.41	-2.22	
43		-2.17	.55	1.67	1.85	1.99	2.12	2.19	2.19	2.23	-2.06	
44		-1.70	1.01	3.92	6.32	8.60	10.88	13.25	15.55	17.09	-1.75	
45		- .94	1.57	3.52	4.66	5.62	6.58	7.50	8.41	8.99	- .88	

Table 20. Strain Gage Results at 32200 Cycles - Crack Gages on AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 32,200 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1		.40	3.10	5.74	8.40	11.10	13.69	16.40	19.04	20.96	.43	
2												
3												
4		.92	3.43	6.04	8.73	11.49	14.17	16.97	19.72	21.71	.98	
5		.21	3.39	6.41	9.37	12.33	15.14	18.03	20.82	22.82	.12	
6		.64	1.90	3.19	4.48	5.80	7.07	8.40	9.68	10.62	.68	
7		.31	1.54	2.79	4.06	5.35	6.59	7.88	9.15	10.06	.34	
8		.71	3.40	7.42	23.61	21.91	17.44	21.64	19.30	16.53	1.97	
9		.34	1.63	2.96	4.30	5.66	6.98	8.35	9.69	10.66	.37	
10		-2.50	-1.84	-1.52	-1.08	-.86	-.89	-.92	-.95	-.96	-2.46	
11		-.62	2.11	2.38	2.66	2.75	2.78	2.81	2.83	2.85	-.58	
12		-2.37	-1.25	-.62	-.15	.05	.04	.05	.05	.05	-2.34	
13		-1.43	.32	.67	.86	1.10	1.09	1.07	1.08	1.08	-1.39	
14		1.75	3.98	6.55	9.22	11.98	14.68	17.50	20.27	22.36	1.85	
15		1.25	3.96	6.84	9.75	12.69	15.52	18.43	21.25	23.25	1.21	
16		-1.67	.55	1.09	1.37	1.61	1.82	1.99	2.15	2.27	-1.63	
17		.22	2.62	5.21	7.56	9.95	12.25	14.65	16.99	18.65	.22	
18		-1.18	.79	.91	1.01	1.08	1.13	1.15	1.14	1.15	-1.14	
19		-4.77	-3.24	-2.32	-1.76	-1.49	-1.56	-1.76	-1.94	-2.04	-4.63	
20												
21		-2.31	-1.36	-1.19	-1.12	-1.09	-1.19	-1.37	-1.53	-1.62	-2.24	
22		-.99	-.30	-.43	-.58	-.65	-.71	-.78	-.86	-.89	-.94	
23		-.79	-.18	-.21	-.25	-.27	-.28	-.29	-.30	-.31	-.75	
24		-1.61	.03	.02	.08	.14	.18	.22	.26	.27	-1.56	

Table 20. Strain Gage Results at 32200 Cycles - Crack Gages on AFCG-2 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 32,200 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
25		-2.04	.04	.52	.98	1.42	1.83	2.25	2.65	2.88	-1.99	
26												
27		- .13	2.39	4.95	7.56	10.22	12.81	15.52	18.16	20.06	- .15	
28		.43	3.07	5.70	8.38	11.08	13.70	16.43	19.09	21.02	.35	
29		1.10	3.91	6.67	9.43	12.21	14.89	17.65	20.33	22.27	1.08	
30		.22	2.79	5.36	7.99	10.71	13.34	16.11	18.82	20.77	.13	
31		.50	1.84	3.20	4.57	5.95	7.28	8.66	10.00	10.98	.49	
32		.45	1.73	3.06	4.31	5.62	6.88	8.19	9.46	10.39	.45	
33		.37	1.69	3.02	4.31	5.60	6.86	8.16	9.42	10.33	.41	
34		1.20										
35		- .75	1.40	3.79	6.49	9.24	11.87	14.66	17.36	19.31	- .77	
36		-1.06	1.44	4.33	6.97	9.60	12.11	14.72	17.27	19.07	-1.04	
37		- .97	1.31	3.80	6.26	8.74	11.10	13.58	15.98	17.70	-1.02	
38		- .67	1.79	4.55	7.31	10.07	12.74	15.50	18.19	20.09	- .65	
39		.37	2.80	5.36	8.03	10.73	13.35	16.06	18.69	20.59	.35	
40		.52	2.71	5.08	7.59	10.16	12.65	15.24	17.76	19.60	.55	
41		-4.09	-1.62	- .03	1.07	1.98	2.23	2.38	2.48	2.52	-4.04	
42		-2.35	- .71	- .72	- .44	- .18	- .25	- .35	- .42	- .43	-2.32	
43		-1.90	.82	2.01	2.18	2.30	2.42	2.49	2.53	2.52	-1.86	
44		-4.21	-2.02	- .51	.58	1.53	1.96	2.11	2.23	2.30	-4.11	
45		- .33	1.41	1.54	1.80	2.06	2.06	1.96	1.88	1.84	- .32	

Table 21. Strain Gage Results at 37600 Cycles - Crack Gages on AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 37,600 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1		.53	3.10	5.75	8.41	11.06	13.69	15.94	19.03	20.96	.45	
2												
3												
4		.89	3.37	5.99	8.68	11.39	14.12	16.45	19.65	21.67	.93	
5		.38	3.41	6.43	9.38	12.29	15.15	17.54	20.81	22.82	.14	
6		.86	2.11	3.39	4.69	6.00	7.30	8.40	9.92	10.86	.88	
7		.37	1.58	2.84	4.11	5.38	6.66	7.74	9.22	10.15	.38	
8		2.14	7.77	10.04	9.89	8.99	11.16	12.32	13.52	36.91	6.20	
9		.43	1.70	3.02	4.37	5.72	7.08	8.22	9.79	10.78	.44	
10		- 2.40	- 1.79	- 1.48	- 1.03	- .83	- .86	- .89	- .92	- .95	- 2.39	
11		- .50	2.17	2.48	2.76	2.84	2.89	2.91	2.94	2.96	- .50	
12		- 2.33	- 1.22	- .59	- .13	.05	.04	.05	.05	.05	- 2.31	
13		- 1.46	.23	.58	.77	1.00	1.00	.99	.99	.98	- 1.45	
14		1.81	4.06	6.76	9.59	12.43	15.32	17.78	21.19	23.40	1.92	
15		1.09	3.70	6.70	9.58	12.44	15.30	17.68	20.95	22.89	.95	
16		- 1.45	.69	.91	1.11	1.27	1.39	1.46	1.48	1.51	- 1.42	
17		- 1.58	.64	1.93	2.81	3.66	4.49	5.15	6.07	6.62	- 1.56	
18		- 1.08	.84	.95	1.09	1.19	1.28	1.34	1.36	1.37	- 1.05	
19		- 1.14	-8.03	- 5.18	- 3.04	- 1.64	- 1.71	- 1.76	- 1.76	- 1.76	-11.11	
20												
21		- 6.45	- 4.07	- 2.77	- 1.93	- 1.32	- 1.46	- 1.52	- 1.53	- 1.54	- 6.40	
22		- 1.34	- .71	- .79	- .76	- .70	- .81	- .88	- .89	- .90	- 1.34	
23		- .50	- .12	- .14	- .17	- .19	- .21	- .23	- .24	- .25	- .49	
24		- 1.00	.15	.12	.11	.07	.10	.11	.10	.10	- .97	

Table 21. Strain Gage Results at 37600 Cycles - Crack Gages on AFCG-2 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 37,600 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
25		- 1.40	- .29	- .10	.11	.25	.33	.36	.37	.37	-1.39	
26												
27		- .07	2.39	4.94	7.55	10.17	12.80	15.04	18.12	20.04	- .16	
28		.51	3.05	5.69	8.35	11.01	13.68	15.94	19.05	20.98	.34	
29		1.16	3.90	6.67	9.42	12.15	14.87	17.16	20.30	22.24	1.06	
30		.31	2.76	5.34	7.96	10.63	13.32	15.59	18.76	20.17	.10	
31		.62	1.92	3.28	4.66	6.02	7.39	8.54	10.12	11.11	.58	
32		.51	1.76	3.05	4.35	5.64	6.94	8.02	9.52	10.45	.49	
33		.53	1.82	3.11	4.40	5.68	6.97	8.05	9.53	10.45	.49	
34		3.02									4.03	
35		- 1.86	.20	2.28	4.20	6.04	7.87	9.43	11.56	12.81	-1.92	
36		- 2.42	.05	2.59	4.16	5.62	7.11	8.36	10.07	11.07	- 2.41	
37		- 2.36	- .27	1.29	2.38	3.44	4.51	5.42	6.71	7.43	- 2.44	
38		- 2.84	- .53	1.14	2.34	3.41	4.45	5.32	6.47	7.12	- 2.83	
39		.67	3.05	5.76	8.59	11.43	14.24	16.63	19.91	21.94	.60	
40		.72	2.89	5.36	8.05	10.74	13.45	15.74	18.90	20.88	.71	
41		-4.22	-1.92	- .28	1.01	2.03	2.28	2.40	2.53	2.57	-4.18	
42												
43		-1.97	.70	2.00	2.24	2.41	2.55	2.59	2.63	2.63	-1.93	
44		- 4.48	- 2.23	- .56	.64	1.62	2.12	2.25	2.40	2.48	- 4.49	
45		- .29	1.39	1.50	1.72	2.00	2.06	1.97	1.87	1.82	- .26	

Table 22. Strain Gage Results at 55000 Cycles - Crack Gages on AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 55,000 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1		.10	2.66	5.35	8.03	10.70	13.37	16.06	18.76	20.69	.02	
2												
3												
4		.59	3.29	6.01	8.74	11.51	14.28	17.06	19.86	21.87	.83	
5		1.31	4.36	7.36	10.25	13.13	16.00	18.81	21.62	23.61	1.09	
6		.64	1.91	3.22	4.53	5.86	7.20	8.53	9.87	10.82	.64	
7		.18	1.41	2.68	3.95	5.24	6.55	7.84	9.15	10.07	.19	
8												
9		.20	1.48	2.83	4.22	5.59	6.97	8.35	9.71	10.70	.23	
10		-3.10	-1.77	-1.70	-1.22	-.92	-.95	-.98	-1.01	-1.03	-3.05	
11		-1.79	1.04	2.09	2.37	2.50	2.54	2.56	2.58	2.59	-1.77	
12		-2.44	-1.27	-.62	-.20	-.05	-.04	-.04	-.03	-.03	-2.42	
13		-1.26	.61	1.21	1.45	1.70	1.70	1.69	1.69	1.70	-1.16	
14		-1.20	-.58	-.41	-.20	-.02	.14	.23	.30	.29	-1.17	
15		-1.17	.49	.75	.71	.66	.59	.49	.44	.44	-1.15	
16		-2.20	.10	.64	.86	1.03	1.16	1.20	1.19	1.19	-2.13	
17		-2.49	-.23	.38	.55	.69	.79	.86	.88	.88	-2.44	
18		-1.10	.59	.70	.86	.95	1.03	1.06	1.05	1.04	-1.04	
19		-12.39	-8.83	-5.44	-3.01	-1.82	-1.91	-1.91	-1.91	-1.91	-12.32	
20												
21		-9.60	-6.26	-3.54	-2.44	-1.91	-2.05	-2.05	-2.05	-2.05	-9.50	
22		-2.02	-1.30	-1.13	-1.16	-1.13	-1.25	-1.27	-1.27	-1.28	-2.06	
23		-.55	-.44	-.52	-.61	-.62	-.67	-.67	-.68	-.68	-.56	
24		-.47	0	-.05	-.12	-.15	-.14	-.14	-.14	-.14	-.49	

Table 22. Strain Gage Results at 55000 Cycles - Crack Gages on AFCG-2 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 55,000 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
25		- .85	- .36	- .19	- .06	.05	.10	.11	.11	.11	- .86	
26												
27		- .65	1.96	4.58	7.22	9.91	12.61	15.31	18.02	19.96	- .56	
28		.74	3.29	5.94	8.58	11.26	13.97	16.66	19.37	21.31	.55	
29		- .08	2.82	5.67	8.47	11.29	14.09	16.86	19.64	21.62	.08	
30		.12	2.54	5.12	7.72	10.41	13.14	15.87	18.64	20.60	- .13	
31		.36	1.78	3.21	4.63	6.06	7.49	8.89	10.31	11.32	.35	
32		.29	1.64	3.00	4.33	5.66	7.00	8.32	9.65	10.60	.29	
33		.34	1.70	3.07	4.40	5.73	7.06	8.38	9.70	10.64	.34	
34												
35		-2.39	- 1.52	- .95	- .46	- .22	- .29	- .32	- .29	- .30	-2.41	
36		-2.73	- .49	.22	.61	.95	1.04	1.07	1.09	1.09	-2.68	
37		-3.45	- 2.72	- 1.87	-1.22	- 1.22	- 1.46	- 1.50	- 1.50	- 1.52	-3.66	
38		-14.68	- 11.05	- 7.36	- 3.65	- .03	1.24	1.27	1.29	1.30	-14.56	
39		- 2.03	.14	.92	1.16	1.37	1.42	1.43	1.44	1.45	- 2.02	
40		- 2.21	- 1.29	- 1.13	- .72	- .41	- .34	- .34	- .33	- .33	- 2.14	
41		- 4.79	- 2.56	- .64	.77	1.88	2.17	2.29	2.38	2.41	-4.81	
42												
43		- 3.44	- .74	1.52	1.78	1.94	2.03	2.06	2.09	2.09	- 3.35	
44		-5.74	- 3.38	- 1.17	.10	1.21	1.90	2.11	2.24	2.32	- 5.77	
45		- .31	1.85	2.32	2.58	2.86	3.10	2.95	2.86	2.81	- .25	

Table 23. Strain Gage Results at 161200 Cycles - Crack Gages on AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 161,200 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1		.14	2.74	5.39	8.05	10.66	13.34	16.00	18.68	20.62	.10	
2												
3												
4		.97	3.48	6.13	8.82	11.51	14.26	17.01	19.78	21.79	.71	
5		1.18	4.31	7.34	10.28	13.14	16.02	18.84	21.65	23.66	1.20	
6		.82	2.02	3.28	4.55	5.83	7.12	8.42	9.71	10.64	.71	
7		.32	1.49	2.71	3.95	5.20	6.46	7.72	8.99	9.90	.25	
8												
9		.28	1.54	2.80	4.16	5.45	6.78	8.12	9.46	10.43	.16	
10		-3.04	-1.70	-1.66	-1.17	-.93	-.98	-1.01	-1.03	-1.04	-3.07	
11		-1.69	1.23	2.18	2.48	2.55	2.59	2.60	2.62	2.62	-1.70	
12		-2.42	-1.22	-.63	-.20	-.08	-.07	-.07	-.08	-.08	-2.44	
13		-.66	1.15	1.70	1.93	2.15	2.14	2.14	2.14	2.13	-.66	
14		-2.45	-1.26	-.59	-.18	.04	.23	.26	.25	.23	-2.53	
15		-3.29	-1.09	.09	.65	.61	.54	.50	.50	.49	-3.27	
16		-3.85	-1.55	.25	1.12	1.18	1.24	1.22	1.21	1.18	-3.94	
17		-5.82	-3.53	-1.00	.88	.89	.94	.92	.90	.88	-5.89	
18		-.67	.73	.95	.97	1.04	1.09	1.07	1.05	1.03	-.74	
19		-13.21	-9.75	-6.25	-3.19	-1.78	-1.81	-1.82	-1.82	-1.84	-13.24	
20												
21		-11.67	-8.26	-4.96	-2.60	-1.87	-1.93	-1.94	-1.96	-1.97	-11.66	
22		-3.68	-1.79	-1.42	-1.21	-1.19	-1.25	-1.27	-1.30	-1.32	-3.76	
23		-.41	-.40	-.50	-.59	-.65	-.68	-.70	-.73	-.76	-.55	
24		-.22	.12	.04	-.07	-.10	-.10	-.12	-.14	-.16	-.31	

Table 23. Strain Gage Results at 161200 Cycles - Crack Gages on AFCG-2 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 161,200 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
25		- .57	- .21	- 08	.03	.13	.16	.16	.14	.13	-.65	
26												
27		- .57	1.91	4.51	7.12	9.76	12.45	15.14	17.84	19.78	- .71	
28		.68	3.28	5.94	8.61	11.27	13.98	16.67	19.37	21.31	.65	
29		.07	2.81	5.61	8.39	11.16	13.93	16.70	19.45	21.43	- .07	
30		.02	2.50	5.09	7.73	10.38	13.11	15.84	18.59	20.57	- .10	
31		3.25	5.48	16.54	15.89	12.97	55.38				2.05	
32		.67	1.96	3.28	4.60	5.88	7.18	8.47	9.80	10.72	.60	
33		1.85	3.76	18.47							.88	
34												
35		-2.29	-1.52	- .92	- .41	- .10	- .17	- .19	- .16	- .17	-2.33	
36		-2.62	- .31	.25	.65	.97	1.01	1.00	1.02	1.02	-2.63	
37		-3.28	-2.72	-1.96	-1.28	-1.38	-1.54	-1.58	-1.60	-1.61	-3.50	
38		-14.38	-10.79	-7.18	-3.52	.19	1.25	1.27	1.27	1.27	-14.36	
39		-1.85	.23	1.00	1.23	1.42	1.46	1.46	1.47	1.47	-1.87	
40		-2.08	-1.21	-1.13	- .75	-.44	- .39	- .40	- .40	- .41	-2.13	
41		-5.27	-2.77	- .88	.75	2.02	2.44	2.56	2.60	2.62	-5.26	
42												
43		-4.45	-1.84	.70	1.92	2.06	2.10	2.12	2.11	2.09	-4.51	
44		-9.88	-7.12	-4.07	-.80	.80	1.99	2.36	2.41	2.41	-9.88	
45		-3.98	-1.67	.71	2.21	2.49	2.74	2.72	2.68	2.68	-3.97	

Table 24. Strain Gage Results for Basic Panel at Start of Test-AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1S	0	.100	1370	2580	3810	5050	6240	7460	8660	9500	.140	
2S		.100	1310	2480	3700	4880	6030	7260	8450	9300	.110	
3S		.020	1300	2510	3770	5000	6250	7510	8740	9610	.040	
4S		.050	1360	2630	3900	5150	6400	7660	8960	9800	.080	
5S		.070	1370	2630	3900	5150	6400	7660	8960	9800	.140	
6S		-.040	1200	2410	3690	4900	6100	7400	8600	9500	-.060	
7S		.020	1200	2390	3610	4810	6040	7300	8540	9410	-.010	
8S		-.160	1210	2520	3850	5120	6380	7700	8950	9850	-.070	
9S		.280	1380	2480	3560	4610	5680	6800	7890	8660	.290	
10S		-.160	920	2020	3120	4220	5290	6410	7510	8300	-.160	
11S		.260	1340	2450	3520	4590	5690	6800	7880	8650	.200	
12S	0	-.200	930	2020	3150	4170	5300	6480	7560	8300	-.150	

Table 25. Strain Gage Results for Basic Panel at 161200 Cycles-AFCG-2

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 161,200 CYCLES MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F	0 B.I.	5	10	15	20	25	30	35	38.5	0 B.I.	0 H.F.
1S		.450	1690	2910	2.130	5290	6.500	7.680	8.900	9.740	.039	.690
2S		-.010	1.190	2390	3.570	4.710	5930	7.150	8350	9200	-.040	.160
3S		.150	1380	2630	3.880	5080	6.350	7.630	8890	9800	.090	.260
4S		-.140	1.190	2.510	3800	5.080	6350	7.630	8.900	9840	-.200	.090
5S		-.380	830	2010	3.250	4.450	5660	6930	8.170	9060	-.450	-.020
6S		.440	1.660	2900	4.100	5.300	6500	7.730	8.950	9820	.380	.040
7S		.640	1.750	2910	4.100	5240	6.440	7640	8850	9.740	.560	-.030
8S		-.640	.670	2000	3.260	4.490	5.740	7000	8.260	9160	-.700	-.020
9S		.330	1450	2650	3.790	4940	6090	7300	8490	9340	.290	.210
10S		.150	1.210	2350	3510	4630	5830	7040	8250	9110	.110	.160
11S		.690	1.830	2950	4.130	5260	6440	7660	8810	9680	.680	.300
12S		-.020	1000	2.140	3330	4500	5.720	6910	8.140	8990	-.040	.260

Table 26. Strain Gage Results for Tension Loading at Start of Test-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	@ H.F.	@ B.I.*	5	10	20	30	35	37.5				
1	.03	.38	1.50	2.14	5.26	7.81	9.06	9.68				
2	.02	-.19	.99	2.20	4.69	7.21	8.45	9.07				
3	.02	-.25	.88	2.13	4.69	7.20	8.61	9.25				
4	.04	.23	1.46	2.76	5.19	8.10	9.36	10.00				
5	.02	.05	1.23	2.55	5.23	7.92	9.36	9.91				
6	.02	.13	1.41	2.79	5.53	8.26	9.62	10.29				
7	.04	.11	1.43	3.33	6.61	9.91	11.06	11.63				
8	.03	-.01	1.09	2.25	4.57	6.93	8.11	8.68				
9	.03	.10	1.18	2.33	4.58	6.86	7.99	8.51				
10	.03	-.04	1.08	2.24	4.56	6.90	8.06	8.64				
11	.04	.60	3.33	6.00	11.57	16.95	19.91	21.22				
12	.04	.75	3.69	6.72	12.72	19.12	22.15	23.65				
13	.04	.94	3.73	6.61	12.57	18.44	21.36	22.78				
14	-.02	.96	3.79	6.71	12.52	18.48	21.41	22.94				
15	-.03	1.09	3.96	6.86	13.32	19.00	22.08	23.62				
16	-.03	1.00	3.77	6.68	12.51	17.76	21.23	22.75				
17	-.01	.19	1.24	2.41	4.52	7.19	8.34	9.14				
18	.03	.09	1.12	2.22	4.50	6.84	8.02	8.60				
19	.03	.35	3.00	5.28	9.96	14.76	17.22	18.46				
20	.04	1.02	3.86	6.60	12.01	17.35	20.07	21.37				
21	.05	.87	3.44	5.28	11.09	16.23	18.94	20.13				
22	.05	.72	3.50	6.28	11.71	17.04	19.70	21.00				
23	.05	.49	2.60	4.81	9.40	14.16	16.61	17.82				
24	.02	.21	2.67	5.22	10.33	15.46	18.05	19.31				

* With Buckling Restrainers Installed

Table 26. Strain Gage Results for Tension Loading at Start of Test-AFCG-3 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø H.F.	Ø B.I.*	5	10	20	30	35	37.5				
25	.02	-.02	2.31	4.72	9.56	14.42	16.88	18.09				
26	.03	1.07	3.41	5.83	10.69	15.58	18.05	19.25				
27	.05	.85	3.35	5.92	11.04	16.11	18.65	19.89				
28	.05	.94	3.35	5.85	10.82	15.77	18.25	19.45				
29	.05	1.15	3.52	5.97	10.86	15.74	18.17	19.35				
30	.04	1.16	3.73	6.34	11.57	16.73	19.32	20.58				
31	.02	1.01	3.47	5.98	11.04	16.11	18.65	19.90				
32	.04	-.70	1.81	4.56	10.08	15.67	18.50	19.30				
33	.04	-.78	1.76	4.52	10.05	15.60	18.41	19.79				
34	.02	-.48	1.97	4.67	10.09	15.59	18.38	19.75				
35	.01	-.49	2.14	4.96	10.61	16.27	19.15	20.56				
36	.02	-1.16	1.52	4.34	9.95	15.53	18.33	19.69				
37	.03	-1.24	1.37	4.09	9.52	14.91	17.62	18.94				
38	.03	-.69	2.13	5.02	10.68	16.28	19.06	20.41				
39	.02	-.24	2.27	4.93	10.39	15.93	18.74	20.13				
40	.02	.05	2.34	4.82	9.98	15.09	17.72	19.03				
41	.04	-.13	2.46	5.19	10.56	15.87	18.54	19.5[illegible]				
42	.02	-.37	1.92	4.39	9.41	14.54	17.17	18.46				
43	.04	-.50	2.11	4.87	10.37	15.84	18.56	19.90				
44	.02	-.72	1.68	4.24	9.48	14.81	17.53	18.[illegible]				
45	.04	-.80	1.85	4.62	10.15	15.68	18.46	19.[illegible]				
46	.02	-.67	1.69	4.19	9.24	14.38	17.01	18.29				
47	.04	-.08	.97	2.07	4.37	17.05	7.36	8.56				

* With Buckling Restrainers Installed

Table 27. Strain Gage Results for Compression Loading at Start of Test - AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	OBI *	-5	-10	-15	-20	-25	-29	OBI *				
1	.25	-1.00	-2.26	-3.55	-4.87	-6.27	-7.55	.21				
2	-.16	-1.38	-2.55	-3.76	-4.96	-6.10	-6.82	-.19				
3	-.08	-1.26	-2.49	-3.73	-4.92	-5.98	-6.51	-.26				
4	.33	-.98	-2.34	-3.73	-5.20	-6.78	-8.35	.05				
5	.11	-1.18	-2.41	-3.63	-4.81	-5.85	-6.32	.10				
6	.11	-1.29	-2.64	-4.03	-5.49	-7.07	-8.64	-.07				
7	.11	-1.03	-2.14	-3.29	-4.47	-5.68	-6.75	.05				
8	.07	-1.08	-2.22	-3.39	-4.56	-5.69	-6.47	-.02				
9	.09	-1.06	-2.14	-3.27	-4.41	-5.59	-6.64	.04				
10	.01	-1.14	-2.27	-3.41	-4.55	-5.68	-6.45	-.04				
11	.52	-2.22	-4.92	-7.65	-10.49	-13.53	-17.04	.28				
12	.96	-2.14	-5.25	-8.44	-11.72	-15.04	-17.33	.73				
13	1.05	-1.86	-4.76	-7.68	-10.68	-13.71	-16.09	.87				
14	.97	-1.95	-4.88	-7.90	-11.07	-14.54	-18.26	.84				
15	1.07	-1.80	-4.70	-7.70	-10.90	-14.48	-18.45	.89				
16	1.13	-1.81	-4.65	-7.50	-10.37	-13.20	-15.22	.75				
17	.20	-.94	-2.01	-3.04	-3.76	-4.77	-5.00	.25				
18	.12	-.92	-1.93	-2.88	-3.76	-4.48	-4.69	.21				
19	.76	-1.47	-3.54	-5.52	-7.31	-8.67	-8.87	.72				
20	.87	-1.96	-4.87	-7.97	-11.36	-15.25	-19.68	.95				
21	.80	-1.80	-4.43	-7.18	-10.21	-13.82	-18.55	.77				
22	.69	-2.17	-5.10	-8.22	-11.70	-15.69	-20.03	.55				
23	.52	-1.62	-3.64	-5.55	-7.22	-8.53	-8.55	.43				
24	.20	-2.33	-4.80	-7.29	-9.77	-12.20	-14.15	.07				

* With Buckling Restrainers Installed

Table 27. Strain Gage Results for Compression Loading at Start of Test - AFCG-3 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	OBI *	-5	-10	-15	-20	-25	-29	OBI *				
25	.03	-2.40	-4.76	-7.20	-9.76	-12.54	-15.27	-.16				
26	.98	-1.43	-3.71	-6.03	-8.38	-10.86	-13.29	.95				
27	.73	-1.86	-4.35	-6.89	-9.49	-12.10	-14.29	.70				
28	.78	-1.71	-4.06	-6.45	-8.82	-11.13	-12.93	.77				
29	1.00	-1.43	-3.69	-5.97	-8.21	-10.33	-11.75	1.01				
30	1.01	-1.61	-4.06	-6.54	-9.00	-11.37	-13.12	1.03				
31	.88	-1.68	-4.03	-6.45	-8.92	-11.58	-14.35	.79				
32	-.52	-3.21	-5.85	-8.53	-11.23	-13.89	-15.75	-.73				
33	-.64	-3.30	-5.90	-8.49	-10.27	-13.12	-14.21	-.75				
34	-.39	-2.91	-5.34	-7.61	-9.53	-10.61	-10.43	-.48				
35	-.34	-3.14	-5.95	-8.90	-12.03	-15.44	-18.10	-.53				
36	-1.13	-3.98	-6.65	-9.32	-11.89	-13.33	-10.53	-1.10				
37	-1.25	-3.93	-6.52	-9.15	-11.92	-15.66	-21.43	-1.08				
38	-.61	-3.61	-6.67	-10.02	-13.83	-18.49	-22.13	-.58				
39	-.10	-2.61	-4.87	-6.87	-8.24	-8.06	-6.48	-.13				
40	.26	-2.13	-4.40	-6.54	-8.42	-9.69	-9.37	-.03				
41	.08	-2.69	-5.54	-8.55	-11.78	-15.37	-18.12	-.14				
42	-.16	-2.58	-4.96	-7.33	-9.64	-11.82	-13.37	-.39				
43	-.36	-3.09	-5.94	-8.83	-11.74	-14.57	-16.37	-.52				
44	-.55	-3.02	-5.48	-7.86	-10.08	-11.97	-12.79	-.65				
45	-.66	-3.38	-6.23	-9.11	-11.95	-14.66	-16.29	-.65				
46	-.44	-2.80	-5.38	-7.84	-10.30	-12.74	-14.64	-.61				
47	-.10	-1.13	-2.12	-3.06	-3.99	-4.81	-5.40	-.20				

* With Buckling Restrainers Installed

Table 28. Strain Gage Results for Tension Loading at 410 Flights - AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 410 FLIGHTS COMPLETED MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	*Ø B.I.	5	10	20	30	35	37.5						
1	.32	1.58	2.82	5.38	7.95	9.22	9.87						
2	-.54	.63	1.83	4.37	6.94	8.20	8.53						
3	-.74	.29	1.41	4.00	6.69	8.04	8.73						
4	-1.19	-.07	1.14	3.82	6.56	7.98	8.61						
5	1.11	2.32	3.51	6.04	8.62	9.89	10.56						
6	1.00	2.32	3.62	6.29	8.90	10.20	10.87						
7	-.38	.72	1.85	4.21	6.58	7.76	8.35						
8	.31	1.35	2.46	4.79	7.13	8.31	8.91						
9	-.01	1.16	2.28	4.58	6.87	8.01	8.57						
10	.73	1.86	2.96	5.24	7.51	8.66	9.23						
11	2.02	4.77	7.52	13.27	19.10	22.10	23.53						
12	3.10	6.22	9.32	15.67	21.99	25.13	26.71						
13	-3.51	-.90	1.55	5.94	9.88	11.81	12.79						
14	-2.73	-.01	2.63	7.54	12.05	14.27	15.40						
15	-190.00	-186.85	-213.79	-216.96	-198.41	-207.32	-222.15						
16	3.47	6.34	9.18	15.08	20.99	23.93	25.44						
17	.75	1.80	2.88	5.27	7.69	8.91	9.55						
18	.66	1.65	2.69	4.95	7.23	8.39	8.98						
19	-1.04	.99	3.28	8.13	13.15	15.67	16.79						
20	-1.44	1.33	4.25	10.03	15.70	18.51	19.94						
21	-.97	1.50	4.16	9.51	14.89	17.73	18.91						
22	-1.03	1.77	4.66	10.40	15.97	18.73	20.10						
23	-.71	1.25	3.42	8.14	13.03	15.53	16.79						
24	-.19	2.38	4.95	10.17	15.36	17.97	19.29						

* With Buckling Restrainers Installed

Table 28. Strain Gage Results for Tension Loading at 410 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 410 FLIGHTS COMPLETED MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	*Ø B.I.	5	10	20	30	35	37.5					
25	-.11	2.32	4.73	9.65	14.53	16.97	18.21					
26	1.22	3.79	6.25	11.25	16.27	18.78	20.06					
27	.91	3.67	6.31	11.62	16.86	19.48	20.80					
28	-1.52	1.03	3.39	7.88	12.25	14.++	15.55					
29	-1.25	1.22	3.48	7.68	11.79	13.85	14.88					
30	1.44	4.41	7.09	12.42	17.70	20.34	21.67					
31	1.00	3.88	6.46	11.63	16.79	19.39	20.71					
32	.70	3.28	5.93	11.56	17.29	20.16	21.64					
33	2.33	4.92	7.56	13.20	18.92	21.79	23.25					
34	-.14	2.33	4.96	10.70	16.56	19.52	21.03					
35	-.23	2.48	5.26	11.08	16.94	19.87	21.36					
36	1.25	4.19	6.85	12.30	17.72	20.46	21.85					
37	1.85	4.76	7.40	12.76	18.11	20.80	22.17					
38	3.53	6.47	9.24	14.85	20.38	23.15	24.55					
39	2.59	5.24	7.80	13.16	18.61	21.36	22.76					
40	1.64	4.02	6.38	11.36	16.41	18.96	20.27					
41	2.12	4.72	7.25	12.44	17.57	20.14	21.44					
42	.24	2.39	4.73	9.79	14.94	17.54	18.86					
43	.39	2.83	5.42	10.89	16.36	19.09	20.47					
44	.01	2.17	4.58	9.78	15.12	17.81	19.19					
45	-.46	1.91	4.56	10.10	15.68	18.47	19.88					
46	-.56	1.58	3.96	9.07	14.28	16.90	18.25					
47	.22	1.26	2.33	4.61	6.96	8.16	8.77					

* With Buckling Restrainers Installed

Table 29. Strain Gage Results for Compression Loading at 410 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 410 FLIGHTS COMPLETED MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I. *	-5	-10	-15	-20	-25	-29	ØB.I. *				
1	.32	-.90	-2.17	-3.47	-4.74	-6.09	-7.28	.31				
2	-.54	-1.76	-2.98	-4.25	-5.45	-6.66	-7.56	-.63				
3	-.75	-1.99	-3.31	-4.61	-5.80	-6.9-	-7.68	-1.12				
4	-1.19	-2.54	-3.95	-5.39	-6.80	-8.34	-9.77	-1.49				
5	1.03	-.09	-1.29	-2.53	-3.68	-4.81	-5.72	.85				
6	.98	-.21	-1.52	-2.90	-4.27	-5.76	-7.12	.88				
7	-.38	-1.55	-2.72	-3.94	-5.11	-6.35	-7.43	-.42				
8	.29	-.80	-1.93	-3.10	-4.18	-5.30	-6.10	.22				
9	.01	-1.11	-2.23	-3.39	-4.54	-5.74	-6.78	-.02				
10	.72	-.30	-1.41	-2.53	-3.59	-4.68	-5.43	.69				
11	2.02	-.57	-3.28	-6.02	-8.66	-11.38	-10.56	1.97				
12	3.11	.13	-3.03	-6.28	-9.46	-12.91	-19.30	3.01				
13	-3.50	-6.07	-8.91	-11.87	-14.81	-18.22	-28.24	-3.56				
14	-2.73	-5.39	-8.30	-11.33	-14.40	-19.07	-26.06	-2.72				
15	-7.85	———	———	———	———	———	———	———				
16	3.47	.75	-2.12	-4.99	-7.75	-10.54	-11.90	3.27				
17	.72	-.32	-1.39	-2.39	-3.32	-4.16	-4.60	.66				
18	.63	-.33	-1.31	-2.27	-3.11	-3.37	-4.25	.60				
19	-.96	-3.25	-5.32	-7.02	-8.08	-7.50	3.65	-.91				
20	-1.38	-4.73	-8.17	-11.82	-16.09	-22.04	30.36	-1.58				
21	-.90	-3.83	-6.81	-10.00	-13.80	-19.75	30.27	-1.09				
22	-1.00	-4.23	-7.62	-11.19	-15.20	-20.30	25.54	-1.24				
23	-.65	-2.80	-4.71	-6.43	-7.65	-7.90	———	-.75				
24	-.17	-2.71	-5.21	-7.77	-10.17	-12.51	-14.08	-.23				

* With Buckling Restrainers Installed

Table 29. Strain Gage Results for Compression Loading at 410 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 410 FLIGHTS COMPLETED MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I. *	-5	-10	-15	-20	-25	-29	ØB.I. *				
25	-.10	-2.50	-4.95	-7.54	-10.13	-13.06	-15.96	-.20				
26	1.27	-1.06	-3.44	-5.88	-8.31	-10.95	-13.58	1.24				
27	.94	-1.58	-4.18	-6.83	-9.40	-11.97	-13.81	.93				
28	-1.47	-3.78	-6.11	-8.45	-10.67	-12.64	-13.53	-1.43				
29	-1.19	-3.38	-5.63	-7.83	-9.89	-11.65	-12.25	-1.13				
30	1.52	-.97	-3.51	-6.05	-8.49	-10.79	-12.22	1.59				
31	1.10	-1.33	-3.82	-6.34	-8.90	-11.70	-14.49	1.12				
32	.67	-1.96	-4.71	-7.58	-10.46	-13.94	-17.32	.38				
33	2.32	-.28	-2.89	-5.46	-7.64	-9.07	-3.90	2.03				
34	-.16	-2.62	-4.99	-7.05	-8.22	-7.32	-4.20	-.32				
35	-.28	-3.11	-6.10	-9.38	-12.98	-17.83	-22.59	-.50				
36	1.27	-1.04	-3.61	-6.12	-8.37	-10.14	-10.59	1.30				
37	1.85	-.42	-3.01	-5.70	-8.42	-11.72	-15.13	1.92				
38	3.49	.93	-1.96	-5.13	-8.36	-12.22	-15.86	3.47				
39	2.59	.41	-1.89	-4.04	-5.72	-6.69	-6.55	2.53				
40	1.61	-.52	-2.77	-4.99	-6.91	-8.55	-9.35	1.44				
41	2.06	-.35	-3.01	-5.39	-8.69	-11.37	-14.44	1.95				
42	.21	-2.08	-4.53	-6.94	-9.13	-11.47	-13.26	.02				
43	.31	-2.27	-5.09	-7.92	-10.55	-13.21	-14.96	.20				
44	-.03	-2.32	-4.74	-6.98	-8.37	-10.42	-10.94	-.16				
45	-.53	-3.19	-6.05	-8.82	-11.39	-13.84	-15.27	-.55				
46	-.58	-2.97	-5.58	-8.08	-10.52	-13.14	-15.33	-.75				
47	.22	-.78	-1.76	-2.70	-3.54	-4.28	-4.72	.22				

* With Buckling Restrainers Installed

Table 30. Strain Gage Results for Tension Loading at 565 Flights - AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 565 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø B.I.*	5	1Ø	2Ø	3Ø	35	37.5					
1	.32	1.57	2.83	5.40	7.96	9.26	9.88					
2	- .58	.61	1.81	4.37	6.93	8.22	8.85					
3	- .92	.23	1.38	4.01	6.73	8.08	8.76					
4	-1.05	.20	1.43	4.16	6.90	8.27	8.95					
5	1.18	2.30	3.43	5.93	8.51	9.79	10.43					
6	1.09	2.29	3.56	6.20	8.80	10.10	10.74					
7	- .46	.69	1.84	4.21	6.59	7.78	8.35					
8	.32	1.40	2.51	4.86	7.21	8.38	8.95					
9	0.00	1.12	2.24	4.53	6.82	7.96	8.53					
10	.78	1.84	2.95	5.21	7.49	8.62	9.18					
11	2.20	4.95	7.74	13.53	19.47	22.47	23.96					
12	3.51	6.62	9.76	16.19	22.61	25.82	27.40					
13	- 4.72	- 2.14	.34	4.39	7.52	8.97	9.65					
14	- 4.30	- 1.58	1.10	5.78	9.60	11.35	12.21					
15	—	—	—	—	—	—	—					
16	3.70	6.53	9.40	15.31	21.27	24.30	25.76					
17	.57	1.60	2.70	5.09	7.53	8.76	9.36					
18	.61	1.58	2.62	4.86	7.16	8.32	8.89					
19	- 1.32	.98	3.38	8.27	13.30	15.86	17.10					
20	- 1.73	1.40	4.46	10.28	15.95	18.78	20.14					
21	- 1.32	1.44	4.10	9.62	15.00	17.72	19.04					
22	- 1.32	1.71	4.68	10.45	16.04	18.80	20.14					
23	- 1.01	1.09	3.34	8.08	12.93	15.50	16.73					
24	- .40	2.11	4.69	9.90	15.12	17.73	19.01					

* With Buckling Restrainers Installed

Table 30. Strain Gage Results for Tension Loading at 565 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 565 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø B.I.*	5	10	20	30	35	37.5					
25	- .31	2.08	4.50	9.40	14.30	16.77	17.97					
26	1.23	3.62	6.07	11.06	16.12	18.69	19.94					
27	.91	3.48	6.11	11.41	16.71	19.38	20.68					
28	- 2.39	- .04	2.24	6.53	10.56	12.54	13.49					
29	- 2.09	.16	2.30	6.29	9.99	11.82	12.71					
30	1.44	4.14	6.78	12.08	17.42	20.13	21.42					
31	1.06	3.67	6.20	11.35	16.56	19.22	20.50					
32	.79	3.35	6.00	11.68	17.49	20.41	21.85					
33	10.72	13.27	15.90	21.83	27.70	30.69	32.18					
34	.07	2.53	5.16	10.92	16.86	19.89	21.38					
35	- .14	2.59	5.41	11.31	17.29	20.28	21.74					
36	1.60	4.22	6.85	12.32	17.85	20.66	22.04					
37	2.15	4.71	7.27	12.61	17.98	20.71	22.04					
38	3.87	6.60	9.33	14.91	20.48	23.28	24.65					
39	2.79	5.22	7.75	13.07	18.55	21.33	22.70					
40	1.65	3.91	6.27	11.26	16.30	18.77	20.13					
41	2.13	4.62	7.14	12.32	17.45	20.01	21.28					
42	.18	2.46	4.87	9.96	15.11	17.72	19.00					
43	.23	2.80	5.46	10.97	16.43	19.15	20.50					
44	- .30	2.07	4.57	9.84	15.18	17.89	19.23					
45	- .70	1.96	4.69	10.29	15.86	18.63	20.00					
46	- .72	1.67	4.15	9.31	14.51	17.14	18.44					
47	.06	1.10	2.17	4.47	6.92	8.02	8.61					

* With Buckling Restrainers Installed

Table 31. Strain Gage Results for Compression Loading at 565 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 565 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø B.I.*	-5	-10	-15	-20	-25	-29	Ø B.I.*				
1	.33	- .93	- 2.20	- 3.49	- 4.78	- 6.10	- 7.28	.34				
2	- .60	- 1.81	- 3.06	- 4.32	- 5.52	- 6.74	- 7.64	- .63				
3	- .91	- 2.17	- 3.45	- 4.73	- 5.95	- 7.10	- 7.83	- 1.16				
4	-1.02	- 2.38	- 3.78	- 5.18	- 6.62	- 8.12	- 9.50	- 1.23				
5	1.14	- .08	- 1.30	- 2.52	- 3.71	- 4.82	- 5.52	1.03				
6	1.10	- .21	- 1.52	- 2.89	- 4.27	- 5.74	- 7.07	1.10				
7	- .45	- 1.61	- 2.80	- 3.99	- 5.19	- 6.42	- 7.49	- .47				
8	.33	- .81	- 1.95	- 3.08	- 4.19	- 5.28	- 6.05	.29				
9	.02	- 1.11	- 2.27	- 3.42	- 4.58	- 5.77	- 6.80	.02				
10	.79	- .32	- 1.42	- 2.52	- 3.62	- 4.68	- 5.49	.78				
11	2.25	- .43	- 3.16	- 5.83	- 8.45	- 10.71	- 8.82	2.20				
12	3.55	.48	- 2.73	- 5.94	- 9.28	- 13.06	- 20.22	3.50				
13	- 4.66	- 7.30	- 10.18	- 13.17	- 16.45	- 21.03	- 32.20	- 4.74				
14	- 4.24	- 6.97	- 9.93	- 12.99	- 16.36	- 20.82	- 29.62	- 4.25				
15	———	———	———	———	———	———	———	———				
16	3.78	.96	- 1.91	- 4.73	- 7.52	- 10.10	- 11.21	3.66				
17	.58	- .52	- 1.58	- 2.60	- 3.54	- 4.38	- 4.83	.55				
18	.58	- .44	- 1.44	- 2.38	- 3.25	- 4.01	- 4.41	.57				
19	- 1.24	- 3.39	- 5.43	- 7.10	- 8.06	- 7.28	- 3.52	- 1.27				
20	- 1.74	- 4.87	- 8.31	- 11.98	- 16.40	- 22.51	- 30.77	- 1.44				
21	- 1.28	- 4.06	- 7.08	- 10.29	- 14.26	- 20.44	- 31.14	- 1.38				
22	- 1.30	- 4.41	- 7.80	- 11.35	- 15.50	- 20.60	- 25.86	- 1.41				
23	- .95	- 3.00	- 4.93	- 6.62	- 7.78	- 7.97	———	- 1.01				
24	- .38	- 2.89	- 5.46	- 7.98	- 10.42	- 12.72	- 14.22	- .39				

* With Buckling Restrainers Installed

Table 31. Strain Gage Results for Compression Loading at 565 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 565 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø B.I.*	-5	-10	-15	-20	-25	-29	Ø B.I.*				
25	- .26	- 2.68	- 5.19	- 7.75	-10.40	- 13.31	- 16.23	- .31				
26	1.26	- 1.11	- 3.54	- 5.97	- 8.45	- 11.07	- 13.70	1.28				
27	.92	- 1.65	- 4.32	- 6.96	- 9.57	- 12.12	- 13.91	.97				
28	- 2.35	- 4.68	- 7.06	- 9.39	- 11.61	- 13.54	- 14.29	- 2.30				
29	- 2.05	- 4.28	- 6.57	- 8.78	- 10.84	- 12.54	- 12.99	- 1.99				
30	1.47	- 1.06	- 3.66	- 6.23	- 8.70	- 10.99	- 12.37	1.55				
31	1.12	- 1.34	- 3.89	- 6.45	- 9.04	- 11.82	- 14.60	1.12				
32	.78	- 1.94	- 4.71	- 7.60	- 10.63	- 14.33	- 17.91	.60				
33	11.01	8.36	5.76	3.28	1.24	.07	.48	10.91				
34	.06	- 2.42	- 4.72	- 6.63	- 7.50	- 6.05	- 2.77	- .04				
35	- .21	- 3.10	- 6.17	- 9.52	- 13.35	- 18.50	- 23.29	- .31				
36	1.66	- .97	- 3.57	- 6.11	- 8.36	- 10.00	- 10.20	1.59				
37	2.17	- .42	- 3.05	- 5.79	- 8.63	- 12.01	- 15.43	2.16				
38	3.90	1.06	- 1.88	- 5.00	- 8.34	- 12.15	- 15.44	3.85				
39	2.85	.41	- 1.87	- 3.97	- 5.64	- 6.54	- 6.42	2.74				
40	1.69	- .62	- 2.88	- 5.05	- 7.02	- 8.61	- 9.40	1.56				
41	2.15	- .45	- 3.15	- 5.94	- 8.83	- 11.93	- 14.49	2.06				
42	.23	- 2.17	- 4.56	- 6.92	- 9.21	- 11.42	- 13.17	.09				
43	.23	- 2.49	- 5.25	- 8.02	- 10.74	- 13.31	- 15.10	.18				
44	- .26	- 2.67	- 5.04	- 7.27	- 9.25	- 10.82	- 11.45	- .35				
45	- .72	- 3.44	- 6.22	- 8.95	- 11.57	- 13.96	- 15.46	- .71				
46	- .67	- 3.14	- 5.64	- 8.11	- 10.59	- 13.08	- 15.22	- .91				
47	.07	- .97	- 1.96	- 2.89	- 3.75	- 4.49	- 4.93	.08				

* With Buckling Restrainers Installed

Table 32. Strain Gage Results for Tension Loading at 721 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 721 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	5	10	20	30	35	37.5	40	50	60		
1	.36	1.59	2.86	5.45	8.01	9.28	9.93	10.61	13.16	15.73		
2	-.57	.63	1.83	4.37	6.94	8.21	8.86	9.53	12.09	14.67		
3	-.91	.29	1.44	4.00	6.70	8.04	8.73	9.43	12.12	14.82		
4	-1.55	-.23	1.01	3.66	6.40	7.76	8.46	9.18	11.83	14.62		
5	1.18	2.30	3.45	5.99	8.47	9.74	10.40	11.06	13.63	16.25		
6	1.09	2.39	3.60	6.19	8.73	10.07	10.74	11.41	14.00	16.63		
7	-.44	.70	1.86	4.22	6.59	7.77	8.37	8.98	11.34	13.70		
8	.32	1.44	2.55	4.87	7.21	8.38	8.93	9.58	11.73	14.29		
9	.01	1.12	2.24	4.54	6.81	7.96	8.54	9.13	11.42	13.72		
10	.79	1.87	2.97	5.22	7.49	8.63	9.20	9.79	12.07	14.36		
11	2.83	5.54	8.35	14.23	20.31	23.40	24.97	26.56	32.78	39.14		
12	4.51	7.65	10.88	17.46	24.23	27.35	29.03	30.72	37.25	43.85		
13	-6.32	-3.64	-1.07	2.12	4.24	5.17	5.63	6.09	7.85	9.56		
14	-6.19	-3.37	-.62	3.12	5.68	6.81	7.40	8.01	10.27	12.52		
15	———	———	———	———	———	———	———	———	———	———		
16	4.25	7.06	9.96	15.95	22.24	25.11	26.63	28.28	34.83	40.69		
17	.75	1.83	2.91	5.27	7.70	8.91	9.50	10.19	12.72	15.30		
18	.66	1.68	2.70	4.90	7.18	8.33	8.91	9.50	11.88	14.31		
19	-1.21	.99	3.44	8.36	13.35	15.90	17.21	13.55	23.65	28.33		
20	-1.30	1.65	4.81	10.63	16.32	19.12	20.54	21.99	27.52	33.09		
21	-.93	1.74	4.54	9.97	15.32	18.02	19.33	20.30	26.17	31.62		
22	-1.06	1.94	4.94	10.70	16.26	19.00	20.40	21.30	27.27	32.62		
23	-.91	1.18	3.44	8.16	13.05	15.54	16.33	13.12	23.13	28.32		
24	-.23	2.27	4.85	10.06	15.28	17.39	19.23	20.55	25.78	31.03		

* With Buckling Restrainers Installed

Table 32. Strain Gage Results for Tension Loading at 721 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 721 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	@B.I.*	5	10	20	30	35	37.5	40	50	60		
25	-.18	2.21	4.64	9.52	14.42	16.88	18.13	19.40	24.31	29.30		
26	1.44	3.83	6.29	11.33	16.44	19.02	20.34	21.67	26.86	32.13		
27	1.18	3.74	6.39	11.75	17.10	19.78	21.15	22.52	27.87	33.26		
28	-3.62	-1.40	.31	4.61	7.99	9.68	10.52	11.40	14.74	18.09		
29	-2.94	-.82	1.26	4.88	8.07	9.65	10.46	11.27	14.44	17.60		
30	1.70	4.25	7.02	12.40	17.78	20.49	21.86	23.27	28.68	34.16		
31	1.28	3.72	6.41	11.61	16.89	19.54	20.97	22.29	27.63	33.08		
32	.94	3.61	6.28	11.99	17.92	20.89	22.42	23.95	29.92	35.94		
33	———	———	———	———	———	———	———	———	———	———		
34	.60	3.10	5.68	11.41	17.47	20.56	22.14	23.74	29.98	36.31		
35	.10	2.96	5.79	11.78	17.93	21.00	22.56	24.12	30.29	36.51		
36	1.84	4.43	7.12	12.58	18.15	20.97	22.42	23.87	29.51	35.27		
37	2.34	4.92	7.54	12.89	18.33	21.07	22.47	23.89	29.40	34.99		
38	5.17	7.94	10.70	16.33	21.99	24.80	26.24	27.69	33.33	39.02		
39	3.02	5.46	8.01	13.33	18.86	21.67	23.14	24.57	30.24	36.01		
40	1.77	4.09	6.44	11.36	16.41	18.95	20.26	21.57	26.70	31.90		
41	2.37	4.93	7.44	12.57	17.71	20.26	21.56	22.88	27.97	33.11		
42	.24	2.63	5.01	10.03	15.16	17.74	19.03	20.42	25.62	30.92		
43	.38	3.05	5.69	11.11	16.56	19.27	20.65	22.04	27.44	32.88		
44	-.11	2.33	4.81	10.00	15.30	17.99	19.37	20.77	26.19	31.71		
45	-.57	2.14	4.87	10.42	15.95	18.71	20.13	21.56	27.08	32.68		
46	-.65	1.79	4.26	9.37	14.54	17.14	18.43	19.84	25.08	30.41		
47	.13	1.18	2.25	4.52	6.84	8.04	8.65	9.27	11.73	14.28		

* With Buckling Restrainers Installed

AD-A076 320 BOEING WICHITA CO KS F/G 20/11
EVALUATION OF THE CRACK GAGE CONCEPT FOR MONITORING AIRCRAFT FL--ETC(U)
JUN 79 G G CASSATT F33615-77-C-5073
UNCLASSIFIED AFML-TR-79-4037-VOL-2 NL

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ADA 076320

Table 33. Strain Gage Results for Compression Loading at 721 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 721 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	ØB.I.*								
1	.33	-2.18	-4.72	-7.28	.38								
2	-.58	-3.07	-5.54	-7.70	-.65								
3	-.84	-3.44	-5.95	-7.92	-1.25								
4	-1.46	-4.21	-7.02	-9.83	-1.70								
5	1.16	-1.31	-3.73	-5.66	.92								
6	1.13	-1.50	-4.22	-6.98	1.04								
7	-.42	-2.79	-5.16	-7.43	-.46								
8	.35	-1.93	-4.18	-6.11	.28								
9	.02	-2.25	-4.56	-6.76	.02								
10	.81	-1.41	-3.59	-5.54	.77								
11	2.85	-2.44	-7.15	-5.04	2.83								
12	4.53	-1.86	-8.95	-21.49	4.45								
13	-6.27	-12.24	-20.32	-39.20	-6.53								
14	6.14	-12.21	-19.95	-35.64	-6.20								
15	———	———	———	———	———								
16	4.34	-1.31	-6.71	-9.73	4.15								
17	.73	-1.42	-3.37	-4.73	.67								
18	.65	-1.34	-3.15	-4.35	.60								
19	-1.12	-5.27	-8.01	-3.63	-1.04								
20	-1.41	-7.88	-15.81	-29.83	-1.06								
21	-.91	-6.62	-13.62	29.61	-.93								
22	-1.08	-7.51	-15.01	-24.42	-1.15								
23	-.88	-4.83	-7.79	———	-.90								
24	-.25	-5.33	-10.24	-13.92	-.22								

* With Buckling Restrainers Installed

Table 33. Strain Gage Results for Compression Loading at 721 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 721 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	ØB.I.*								
25	- .13	- 5.05	-10.21	- 16.02	- .19								
26	1.96	- 3.33	- 8.21	-13.53	1.96								
27	1.16	- 4.05	- 9.29	-13.85	1.21								
28	-3.63	- 8.25	- 12.65	- 18.79	- 3.89								
29	-2.93	- 7.34	- 11.45	- 13.05	- 2.80								
30	1.68	- 3.41	- 8.41	- 11.90	1.85								
31	1.29	- 3.67	- 8.79	- 18.39	1.90								
32	.97	- 4.63	- 10.92	- 19.01	.65								
33	———	———	———	———	———								
34	.62	- 3.98	- 5.82	- .05	.89								
35	.07	- 6.13	- 13.91	- 24.38	- .16								
36	1.92	- 3.23	- 7.80	- 8.78	1.83								
37	2.37	- 2.91	- 8.76	- 16.68	2.32								
38	5.21	- .67	- 7.37	- 15.77	5.07								
39	3.12	- 1.55	- 5.11	- 5.38	2.95								
40	1.84	- 2.75	- 6.85	- 9.16	1.62								
41	2.42	- 2.91	- 8.60	- 18.60	2.27								
42	.33	- 4.47	- 9.12	- 13.23	.12								
43	.38	- 5.10	- 10.55	- 15.01	.27								
44	- .03	- 4.77	- 8.93	- 11.08	- .16								
45	- .59	- 6.08	- 11.42	- 15.39	- .57								
46	- .56	- 5.52	- 10.46	- 15.27	- .75								
47	.12	- 1.89	- 3.66	- 4.84	.13								

* With Buckling Restrainers Installed

Table 34. Strain Gage Results for Tension Loading at 1000 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: ~~1000 FLIGHTS COMPLETE~~ MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60					
1	.45	2.97	5.57	8.20	10.79	13.36	16.[illegible]					
2	- .51	1.87	4.42	7.02	9.63	12.21	14.83					
3	- .79	1.48	4.03	6.78	9.87	12.16	[illegible]					
4	-1.27	1.22	3.88	6.65	9.39	12.10	[illegible]					
5	1.29	3.51	5.91	8.51	11.09	13.67	16.27					
6	1.16	3.61	6.19	8.83	11.42	14.01	16.63					
7	- .35	1.94	4.31	6.72	9.09	11.40	13.[illegible]					
8	.39	2.58	4.89	7.27	9.63	11.99	14.39					
9	.09	2.31	4.61	6.93	9.23	11.53	13.80					
10	.91	3.05	5.30	7.62	9.90	12.19	14.53					
11	3.66	8.65	14.55	21.03	27.65	34.25	41.05					
12	6.42	13.34	20.60	27.70	34.89	41.61	48.63					
13	-8.93	-2.27	.72	1.32	1.86	2.36	2.86					
14	-7.78	-1.60	.92	1.31	2.58	3.33	4.07					
15	———	———	———	———	———	———	———					
16	5.48	11.12	17.41	24.00	30.60	37.19	43.75					
17	.89	3.01	5.36	7.83	10.31	12.33	15.43					
18	.73	2.73	4.91	7.23	9.54	11.91	14.35					
19	-1.16	3.46	8.37	13.42	13.54	23.05	28.92					
20	- .63	5.99	11.35	17.07	22.69	28.22	33.33					
21	- .38	5.06	10.46	15.89	21.31	[illegible]	32.18					
22	- .64	5.30	11.07	16.71	22.22	27.63	33.09					
23	- .74	3.55	8.29	13.24	18.27	23.33	28.53					
24	.22	5.25	10.51	15.84	21.[illegible]	26.39	31.74					

* With Buckling Restrainers Installed

Table 34. Strain Gage Results for Tension Loading at 1000 Flights - AFCG-3 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 1000 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	10	20	30	40	50	60						
25	.16	4.91	9.84	14.84	19.81	24.73	29.42						
26	1.90	6.74	11.90	17.22	22.54	27.89	33.34						
27	1.78	6.97	12.44	18.03	23.55	29.[illegible]	34.61						
28	4.71	- .53	2.27	4.74	7.15	[illegible]	11.93						
29	3.94	.01	2.51	4.75	6.94	[illegible]	11.26						
30	2.30	7.59	13.08	18.70	24.29	[illegible]	35.52						
31	1.72	6.86	12.20	17.70	23.19	[illegible]	34.34						
32	1.28	6.65	12.66	18.97	25.25	31.47	37.86						
33	———	———	———	———	———	———	———						
34	1.57	6.28	11.90	18.29	24.80	31.31	37.98						
35	.49	6.37	12.74	19.[illegible]	25.87	32.[illegible]	38.97						
36	2.42	7.61	13.13	18.92	24.73	30.[illegible]	36.48						
37	3.03	8.26	13.76	19.44	25.13	30.[illegible]	36.62						
38	6.28	11.86	17.65	23.56	29.39	[illegible]	41.14						
39	3.83	8.72	14.14	19.91	25.72	31.[illegible]	37.58						
40	2.06	6.66	11.61	16.77	21.92	[illegible]	32.38						
41	2.76	7.75	12.91	18.15	23.31	[illegible]	33.67						
42	.33	5.00	10.22	15.22	20.43	[illegible]	30.97						
43	.60	5.82	11.26	16.78	22.23	27.65	33.13						
44	.12	4.92	10.11	15.59	20.89	26.32	31.37						
45	- .37	5.00	10.54	16.16	21.72	[illegible]	32.86						
46	- .58	4.25	9.36	14.60	19.83	[illegible]	30.43						
47	.29	2.37	4.65	6.99	9.49	[illegible]	14.39						

* With Buckling Restrainers Installed

Table 35. Strain Gage Results for Compression Loading at 1000 Flights - AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 1000 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	ØB.I.*								
1	.42	-2.11	-4.74	-7.41	.41								
2	-.53	-3.00	-5.51	-7.67	-.65								
3	-.75	-3.29	-5.21	-7.71	-1.28								
4	-1.24	-3.79	-6.33	-9.69	-1.56								
5	1.22	-1.21	-3.63	-5.51	.90								
6	1.16	-1.47	-4.21	-7.01	1.00								
7	-.36	-2.69	-5.23	-7.39	-.41								
8	.38	-1.89	-4.10	-6.07	.25								
9	.09	-2.18	-4.59	-6.72	.05								
10	.89	-1.31	-3.53	-5.47	.81								
11	3.57	-.72	-1.73	3.13	3.84								
12	6.38	-1.21	-11.63	-23.04	5.77								
13	-8.91	-17.64	-31.63	-[illegible].93	-9.55								
14	-7.77	-15.88	-25.85	-42.49	-8.42								
15	———	———	———	———	———								
16	5.51	.21	-4.55	-5.67	5.27								
17	.87	-1.27	-3.23	-4.54	.73								
18	.70	-1.27	-3.76	-4.23	.60								
19	-1.09	-5.22	-7.91	-3.54	-.98								
20	-.72	-7.18	-15.13	-29.33	-.63								
21	-.38	-6.26	-13.[illegible]	-29.43	-.41								
22	-.69	-7.15	-14.72	-25.[illegible]	-.82								
23	-.70	-4.62	-7.53	———	-.78								
24	.17	-4.70	-9.37	-13.27	.08								

* With Buckling Restrainers Installed

Table 35. Strain Gage Results for Compression Loading at 1000 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 1000 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	ØB.I.*								
25	.17	-4.76	-10.01	-16.9	.01								
26	1.91	-2.38	-7.93	-13.57	1.87								
27	1.77	-3.41	-8.63	-12.31	1.77								
28	-4.63	-9.18	-13.39	-14.10	-4.49								
29	-3.72	-8.24	-12.13	-12.23	-3.75								
30	2.29	-2.32	-7.74	-10.73	2.44								
31	1.73	-3.25	-8.44	-14.42	1.84								
32	1.25	-4.60	-11.93	-21.61	.65								
33	———	———	———	———	———								
34	1.56	-2.15	-1.44	-7.02	1.53								
35	.39	-6.37	-15.60	-26.52	-.13								
36	2.45	-2.56	-6.60	-6.31	2.36								
37	3.01	-2.44	-8.74	-17.37	2.89								
38	6.27	.7	-6.70	-15.76	6.00								
39	3.85	-.70	-3.35	-3.62	3.62								
40	2.06	-2.52	-6.62	-8.32	1.73								
41	2.72	-2.60	-8.44	-14.69	2.42								
42	.36	-4.42	-9.09	-13.19	.06								
43	.54	-4.72	-10.39	-14.31	.31								
44	.13	-4.53	-8.67	-10.73	-.08								
45	-.44	-5.90	-11.22	-15.09	-.49								
46	-.53	-5.47	-10.42	-15.27	-.75								
47	.26	-1.73	-3.50	-4.64	.25								

* With Buckling Restrainers Installed

Table 36. Strain Gage Results for Tension Loading at 1405 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 1405 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60					
1	.22	2.82	5.48	8.19	10.87	13.58	16.20					
2	.1	2.71	5.29	7.92	10.55	13.20	15.83					
3	.55	2.85	5.42	8.11	10.81	13.53	16.20					
4	.12	2.49	5.22	7.95	10.68	13.41	16.10					
5	54	2.79	5.25	7.80	10.40	13.02	15.61					
6	.30	2.75	5.38	7.99	10.60	13.26	15.84					
7	.17	2.48	4.97	7.26	9.65	12.03	14.41					
8	.19	2.39	4.74	7.11	9.49	11.88	14.24					
9	.17	2.42	4.72	7.05	9.38	11.72	14.02					
10	.23	2.39	4.63	6.79	9.30	11.62	13.98					
11	2.38	.24	-1.13	-1.24	-1.01	-.68	-.39					
12	-3.96	-.44	3.33	5.21	6.63	7.89	9.01					
13	.36	8.32	9.91	10.17	10.25	10.30	10.34					
14	.51	7.43	8.79	9.30	9.40	9.48	9.52					
15	———	———	———	———	———	———	———					
16	-6.19	2.16	2.42	7.54	12.66	17.81	22.91					
17	.63	2.77	5.16	7.61	10.09	12.65	15.22					
18	.51	2.54	4.77	7.06	9.40	11.80	14.22					
19	.10	4.81	9.63	14.72	19.80	24.95	30.11					
20	.75	6.96	12.75	13.44	24.04	29.59	35.11					
21	.72	6.21	11.60	17.00	22.39	27.80	33.22					
22	.55	6.55	12.32	17.94	23.44	28.89	34.29					
23	.32	4.77	9.63	14.46	19.79	25.00	30.22					
24	.57	5.64	10.99	16.41	21.83	27.26	32.68					

* With Buckling Restrainers Installed

Table 36. Strain Gage Results for Tension Loading at 1405 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 1405 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60					
25	.51	5.33	10.34	15.40	20.50	25.61	30.72					
26	.61	5.54	10.38	16.44	22.05	27.71	33.39					
27	.78	6.04	11.66	17.47	23.28	29.08	34.87					
28	.28	4.24	7.99	7.22	8.36	9.49	10.58					
29	.41	4.16	5.48	6.31	7.23	8.15	9.04					
30	.60	5.75	11.52	17.40	23.27	29.13	35.02					
31	.43	5.74	11.30	17.09	22.91	28.76	34.66					
32	-3.38	2.79	9.78	16.33	22.63	28.89	35.11					
33	———	———	———	———	———	———	———					
34	-1.90	.90	4.04	8.61	13.36	18.15	22.90					
35	-7.15	.25	7.99	13.89	19.50	24.99	30.36					
36	1.24	6.21	11.72	17.65	23.67	29.74	35.85					
37	1.35	6.91	12.80	18.82	24.97	30.96	37.06					
38	1.42	7.30	13.52	19.73	25.95	32.14	38.30					
39	1.14	5.86	11.33	17.29	23.38	29.59	35.80					
40	.62	5.23	10.26	15.46	20.70	26.01	31.31					
41	.81	5.86	11.11	16.38	21.65	26.90	32.14					
42	.39	4.95	9.37	14.90	19.97	25.07	30.17					
43	.57	5.82	11.33	16.78	22.23	27.68	33.07					
44	.66	5.52	10.75	16.07	21.48	26.93	32.39					
45	.51	5.92	11.50	17.05	22.61	28.16	33.68					
46	.36	5.23	10.36	15.53	20.75	26.08	31.28					
47	.49	2.60	4.90	7.24	9.66	12.13	14.67					

* With Buckling Restrainers Installed

Table 37. Strain Gage Results for Compression Loading at 1405 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 1405 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I. *	-10	-20	-29	* ØB.I.								
1	.22	-2.38	-5.15	-7.78	.22								
2	.29	-2.24	-4.77	-6.96	.18								
3	.63	-2.03	-4.43	-6.32	.08								
4	.08	-2.71	-5.48	-8.32	-.25								
5	.53	-2.08	-4.37	-6.22	.20								
6	.32	-2.34	-5.04	-7.82	.19								
7	.18	-2.17	-4.51	-6.78	.15								
8	.21	-2.10	-4.33	-6.26	.10								
9	.17	-2.09	-4.37	-6.58	.16								
10	.25	-1.98	-4.20	-6.16	.17								
11	2.82	8.31	19.23	27.33	4.03								
12	-8.76	-20.03	-31.81	-40.02	-9.80								
13	.59	-12.03	-26.51	-35.83	-.19								
14	.69	-10.33	-25.25	-35.08	-.10								
15	———	———	———	———	———								
16	-6.12	-9.09	-7.72	-2.94	-5.55								
17	.63	-1.55	-3.46	-4.74	.50								
18	.49	-1.53	-3.28	-4.43	.42								
19	.20	-3.92	-6.88	-2.81	.32								
20	.73	-5.62	-13.36	-17.10	.84								
21	.78	-4.83	-12.19	-26.55	.76								
22	.57	-5.88	-13.22	-23.30	.48								
23	.41	-3.63	-6.74	-6.47	.35								
24	.58	-4.44	-9.19	-12.13	.57								

* With Buckling Restrainers Installed

Table 37. Strain Gage Results for Compression Loading at 1405 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 1405 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	*ØB.I.								
25	.56	-4.38	-9.66	-16.23	.48								
26	.65	-4.21	-9.22	-15.95	.62								
27	.81	-4.39	-9.38	-11.65	.82								
28	.32	-3.93	-7.60	5.30	.54								
29	.46	-3.60	-6.95	-3.75	.62								
30	.63	-4.36	-9.03	-10.26	.82								
31	52	-4.47	-9.83	-16.79	.66								
32	-5.34	-10.86	-21.35	-31.46	-4.03								
33	———	———	———	———	———								
34	-1.40	-.07	10.03	19.92	-.62								
35	-7.11	-16.78	-29.35	-39.17	-8.03								
36	1.31	-3.15	-5.52	-2.70	1.21								
37	1.41	-4.75	-12.93	-23.17	1.19								
38	1.50	-5.12	-13.09	-22.36	1.19								
39	1.21	-2.90	-4.94	-3.20	.99								
40	.67	-3.93	-7.85	-9.75	.42								
41	.86	-4.60	-10.58	-17.22	.62								
42	.47	-4.25	8.73	-12.69	.16								
43	.60	-4.95	-10.34	-14.75	.36								
44	.75	-4.03	-8.14	10.34	.50								
45	.53	-4.99	-10.30	-14.23	.42								
46	.46	-4.52	-9.41	-14.15	.21								
47	.49	-1.52	-3.28	-4.41	.48								

* With Buckling Restrainers Installed

Table 38. Strain Gage Results for Tension Loading at 2520 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 2520 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60					
1	.16	2.77	-5.51	3.27	10.97	13.74	16.44					
2	.39	2.76	5.36	8.10	10.33	13.60	16.32					
3	.64	2.93	5.39	8.15	10.82	13.56	16.25					
4	.19	2.63	5.33	8.15	10.35	13.61	16.31					
5	.60	2.35	5.22	7.86	10.41	13.03	15.64					
6	.26	2.70	5.32	7.94	10.52	13.17	15.78					
7	.17	2.43	4.87	7.26	9.66	12.09	14.43					
8	.23	2.46	4.83	7.24	9.65	12.08	14.43					
9	.26	2.52	4.84	7.20	9.57	11.97	14.35					
10	.32	2.55	4.75	7.41	9.84	12.33	14.79					
11	.10	-.76	-1.33	-2.13	-2.33	-2.35	-2.36					
12	-4.94	4.93	7.70	8.00	8.16	8.19	8.20					
13	.02	3.44	10.15	10.24	10.27	10.23	10.20					
14	-.38	7.57	3.33	9.07	9.04	9.03	9.00					
15	———	———	———	———	———	———	———					
16	.62	-1.27	-3.44	-4.05	-4.03	-4.05	-4.06					
17	.53	2.66	5.02	7.53	10.03	12.64	15.25					
18	.13	2.15	4.37	6.71	9.04	11.50	14.81					
19	-.05	4.73	9.63	14.53	19.67	24.87	30.03					
20	9.19	15.49	21.27	26.33	32.49	38.12	43.64					
21	3.04	3.64	14.04	19.39	24.31	30.30	35.72					
22	4.59	10.65	16.41	22.21	27.54	33.00	38.47					
23	.26	4.75	9.67	14.64	19.79	25.07	30.32					
24	2.63	7.62	13.21	19.23	25.17	31.43	37.62					

* With Buckling Restrainers Installed

Table 38. Strain Gage Results for Tension Loading at 2520 Flights - AFCG-3 (Continued)
H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 2520 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60					
25	1.39	6.17	11.90	17.65	23.45	29.34	35.21					
26	-6.70	-1.64	4.39	9.67	14.53	19.35	24.14					
27	-4.33	.53	5.51	10.40	15.19	19.99	24.73					
28	1.36	5.12	4.79	4.76	4.73	4.35	4.89					
29	1.75	4.17	4.05	3.92	3.95	3.99	4.02					
30	-5.32	-.45	3.75	7.53	11.36	15.13	18.83					
31	-7.95	-2.21	3.62	7.80	11.57	15.34	19.08					
32	-11.61	-2.08	3.64	3.65	3.63	3.67	3.69					
33												
34	7.14	3.02	.05	-.54	-.41	-.41	-.42					
35	-15.54	-4.37	3.30	4.52	4.36	4.34	4.33					
36	5.54	2.53	1.00	.73	.37	.35	.34					
37	-7.70	2.02	6.31	6.33	6.39	6.91	6.92					
38	-6.94	1.67	4.31	6.77	7.38	7.72	7.63					
39	7.71	4.17	2.49	.91	.27	.43	.51					
40	2.32	6.93	12.24	18.11	24.03	30.18	36.26					
41	3.78	9.28	15.14	21.18	27.19	33.25	39.26					
42	.44	5.04	9.99	15.06	20.15	25.35	30.51					
43	.37	6.16	11.66	17.20	22.69	28.22	33.67					
44	.65	5.55	10.79	16.17	21.58	27.11	32.60					
45	.76	6.22	11.79	17.37	22.93	28.56	34.10					
46	.41	5.32	10.43	15.62	20.83	26.14	31.40					
47	.36	2.51	4.73	7.14	9.56	12.07	14.62					

* With Buckling Restrainers Installed

Table 39. Strain Gage Results for Compression Loading at 2520 Flights-AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: ~~2520 FLIGHTS COMPLETE~~ MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	ØB.I.								
1	.19	-2.93	-5.20	-7.87	.18								
2	.35	-2.28	-4.95	-7.14	.18								
3	.75	-1.31	-4.32	-6.28	.10								
4	.27	-2.99	-5.38	-8.21	-.10								
5	.62	-1.88	-4.31	-6.20	.22								
6	.35	-2.31	-5.05	-7.35	.16								
7	.22	-2.11	-4.85	-6.73	.16								
8	.28	-2.04	-4.42	-6.43	.19								
9	.31	-1.94	-4.15	-6.39	.26								
10	.38	-2.00	-4.43	-6.53	.24								
11	.97	8.91	19.94	23.23	2.02								
12	-4.51	-17.31	-28.71	-37.02	-5.79								
13	.48	-13.78	-26.54	-35.43	-.31								
14	.27	-13.79	-26.62	-35.55	-1.29								
15	———	———	———	———	———								
16	53	6.02	15.15	22.61	1.38								
17	1.65	-1.60	-3.58	-4.86	.39								
18	12	-1.91	-3.72	-4.89	-.01								
19	.17	-4.00	-6.88	-3.13	.23								
20	9.31	2.86	-4.77	-19.11	9.34								
21	3.22	-2.42	-9.15	-23.59	3.16								
22	4.73	-1.72	-9.07	-18.61	4.55								
23	.44	-3.57	-6.65	———	.33								
24	2.78	-1.76	-5.30	-5.69	2.76								

* With Buckling Restrainers Installed

Table 39. Strain Gage Results for Compression Loading at 2520 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: ~~2520 FLIGHTS COMPLETE~~ MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	ØB.I.								
25	1.55	-3.73	-9.79	-13.03	1.36								
26	-6.74	-11.98	-17.98	-27.54	-6.89								
27	-4.21	-8.76	-11.94	-5.86	-4.06								
28	1.98	-1.73	-3.76	5.95	2.15								
29	1.87	-1.59	-3.13	6.56	2.05								
30	-5.21	-9.48	-11.91	-4.96	-4.89								
31	-7.77	-13.25	-19.57	-30.23	-7.77								
32	-11.26	-26.21	-40.92	———	-13.37								
33	———	———	———	———	———								
34	6.84	21.37	34.56	44.98	10.90								
35	-15.09	-37.92	———	———	-18.61								
36	5.24	16.26	28.05	35.44	6.94								
37	-6.55	-20.40	-31.88	-38.89	-8.05								
38	-6.38	-17.92	-27.89	-34.70	-7.69								
39	8.04	15.06	23.88	29.77	9.32								
40	2.46	-1.86	-4.53	-4.25	2.10								
41	3.91	-2.45	-11.10	-19.63	3.38								
42	.59	-4.14	-8.80	-12.80	.20								
43	.96	-4.61	-10.30	-14.92	.62								
44	.80	-4.03	-8.36	-10.69	.50								
45	.84	-4.70	-10.19	-14.23	.67								
46	.57	-4.41	-9.43	-14.23	.26								
47	.92	-1.60	-3.36	-4.46	.39								

* With Buckling Restrainers Installed

Table 40. Strain Gage Results for Tension Loading at 3640 Flights- AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 3640 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60					
1	.19	2.85	5.55	8.30	11.06	13.79	16.51					
2	.32	2.82	5.38	8.13	10.36	13.58	16.30					
3	.72	3.21	5.42	8.13	10.30	13.49	16.21					
4	-.04	2.47	5.07	7.32	10.54	13.26	15.98					
5	.59	2.88	5.24	7.35	10.40	12.99	15.61					
6	.29	2.77	5.35	7.77	10.58	13.19	15.83					
7	.19	2.53	4.90	7.34	9.77	12.18	14.60					
8	.24	2.50	4.83	7.25	9.66	12.07	14.49					
9	.41	2.72	5.11	7.66	10.20	12.73	15.26					
10	.42	2.67	5.07	7.53	10.08	12.57	15.08					
11	1.13	-.77	-1.90	-2.27	-2.29	-2.31	-2.33					
12	-1.21	8.96	11.57	11.33	11.98	11.99	11.99					
13	.40	9.19	10.85	10.70	10.89	10.86	10.83					
14	-.07	8.36	9.90	7.92	9.89	9.87	9.84					
15	———	———	———	———	———	———	———					
16	.16	-2.13	-3.99	-3.97	-3.99	-4.00	-4.02					
17	.12	2.86	5.17	7.71	10.22	12.80	15.41					
18	.43	2.48	4.67	7.00	9.36	11.76	14.22					
19	.16	5.01	9.90	14.94	20.10	25.20	30.44					
20	———	———	———	———	———	———	———					
21	13.61	19.24	24.60	29.97	35.45	40.86	46.50					
22	13.35	24.46	30.17	35.83	41.41	46.88	52.35					
23	.39	4.93	9.75	14.83	20.03	25.26	30.54					
24	2.67	2.72	1.19	.88	.87	.86	85.49					

* With Buckling Restrainers Installed

Table 40. Strain Gage Results for Tension Loading at 3640 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 3640 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	*ØB.I.	10	20	30	40	50	60					
25	-11.36	-4.19	.65	.96	.98	.97	.99					
26	-12.57	-6.50	.08	-.10	-.19	-.28	-.33					
27	-1.06	-.64	-1.63	-1.89	-1.36	1.27	-1.23					
28	5.49	6.04	4.39	4.12	4.37	4.33	4.36					
29	4.89	5.39	4.13	3.99	3.98	3.97	3.94					
30	-.84	-.39	-1.44	-1.70	-1.55	1.43	-1.43					
31	-13.72	-5.44	.12	.55	.44	.31	.30					
32	-10.95	-1.07	4.24	4.24	4.25	4.25	4.25					
33	———	———	———	———	———	———	———					
34	9.18	3.66	.36	-.20	-.08	-.03	-.04					
35	-16.16	-4.13	+.67	5.49	5.32	5.26	5.24					
36	6.25	2.64	.93	.37	.35	.34	.34					
37	4.63	5.72	10.70	10.78	10.79	10.80	10.80					
38	-4.22	5.16	3.57	9.77	9.38	9.72	9.71					
39	7.14	3.32	1.77	.77	.89	1.01	1.01					
40	4.19	2.84	.42	.08	-.04	-.05	-.07					
41	2.04	9.70	14.75	15.16	15.25	15.27	15.27					
42	.56	5.22	10.09	15.18	20.29	25.42	30.58					
43	1.68	7.04	12.47	18.02	23.52	29.00	34.48					
44	.97	5.93	11.10	16.49	21.90	27.35	32.85					
45	1.19	6.71	12.21	17.82	23.41	23.96	34.53					
46	.47	5.45	10.51	15.73	20.95	26.13	31.45					
47	.93	2.57	4.31	7.16	9.58	12.04	12.60					

* With Buckling Restrainers Installed

Table 41. Strain Gage Results for Compression Loading at 3640 Flights - AFCG-3

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 3640 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	*ØB.I	-10	-20	-29	*ØB.I.								
1	.17	-2.46	-5.20	-7.93	.18								
2	.32	-2.33	-4.96	-7.11	.17								
3	.75	-1.92	-4.34	-6.25	.24								
4	-.02	-2.81	-5.64	-8.57	-.47								
5	.59	-1.94	-4.29	-6.03	.18								
6	.35	-2.32	-5.04	-7.88	.15								
7	.20	-2.15	-4.62	-7.09	.10								
8	.25	-2.10	-4.36	-6.26	.10								
9	.41	-1.89	-4.53	-7.14	.33								
10	.44	-1.96	-4.30	-6.25	.29								
11	.79	9.06	19.36	27.75	2.29								
12	-.93	-13.31	-24.25	-32.78	-1.79								
13	.75	-13.46	-25.79	-34.73	-.53								
14	.26	-13.42	-25.63	-34.65	-.94								
15	———	———	———	———	———								
16	-.23	5.72	14.68	22.28	.42								
17	.72	-1.44	-3.31	-4.54	.53								
18	.42	-1.61	-3.35	-4.47	.26								
19	.29	-3.87	-6.75	-2.38	.40								
20	———	———	———	———	———								
21	13.29	8.03	1.13	-15.26	13.61								
22	18.39	11.85	4.17	-6.37	18.16								
23	.47	-3.53	-6.61	———	.38								
24	2.64	4.43	23.75	37.28	3.72								

* With Buckling Restrainers Installed

Table 41. Strain Gage Results for Compression Loading at 3640 Flights - AFCG-3 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: 3640 FLIGHTS COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)												
	ØB.I.*	-10	-20	-29	ØB.I.*								
25	-11.13	-20.18	-38.49	-50.55	-12.66								
26	-14.35	-25.89	-44.81	———	-15.57								
27	-1.06	4.30	26.90	40.39	.02								
28	5.47	7.25	29.68	43.90	5.96								
29	4.90	6.23	28.75	42.69	5.48								
30	- .86	3.24	26.29	38.04	.27								
31	-13.53	-23.78	-42.04	———	-14.48								
32	-10.70	-26.36	-40.55	———	-12.93								
33	———	———	———	———	———								
34	8.89	23.35	35.19	42.20	12.58								
35	-15.84	-30.87	-42.31	———	-18.90								
36	6.01	16.64	27.10	33.95	7.33								
37	-4.27	-17.62	-27.88	-34.38	- 5.58								
38	-3.90	-15.40	-24.51	-30.33	- 5.25								
39	6.98	18.66	23.15	28.69	8.20								
40	4.12	9.62	21.70	28.19	5.20								
41	2.30	- 9.92	-22.51	-29.11	.66								
42	.03	- 4.15	- 8.64	-12.52	.23								
43	1.68	- 3.94	- 9.35	-13.62	1.32								
44	1.79	- 3.78	- 7.83	- 9.86	.74								
45	1.19	- 4.36	- 9.53	-13.17	1.03								
46	.56	- 4.45	- 9.40	-14.19	.26								
47	.43	- 1.55	- 3.27	- 4.33	.41								

* With Buckling Restrainers Installed

Table 42. Strain Gage Results at Start of Test - AFCG-4

H.F. ~ HANGING FREE B.I. ~ BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: AT START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F.	0 B.I.*	5	10	20	30	35	37.5	0 B.I.*	-5	-10	-12
1	0	-.22	1.07	2.36	4.91	7.46	8.71	9.34	-.25	-1.42	-2.51	-3.01
2	0	.25	1.46	2.70	5.21	7.71	8.96	9.58	.25	-.98	-2.05	-2.53
3	.01	-.07	1.21	2.52	5.13	7.75	9.05	9.71	-.03	-1.20	-2.13	-2.57
4	.01	.09	1.38	2.71	5.37	8.02	9.33	9.99	.09	-1.19	-2.24	-2.76
5	-.0	-.83	.34	1.63	4.24	6.87	8.17	8.83	-.69	-1.99	-3.56	-4.09
6	.01	.54	1.84	3.19	5.89	8.56	9.88	10.54	.57	-.87	-2.60	-3.23
7	.01	.13	1.23	2.34	4.58	6.82	7.93	8.49	.10	-.98	-2.05	-2.50
8	.0	-.01	1.12	2.37	4.57	6.89	8.04	8.62	.05	-1.08	-2.15	-2.60
9	.0	.19	1.30	2.42	4.64	6.88	7.99	8.54	.15	-.95	-2.15	-2.62
10	-.01	-.12	1.05	2.25	4.63	7.01	8.20	8.79	-.07	-1.26	-2.52	-3.01
11	0	.45	2.80	5.16	9.82	14.51	16.89	18.07	.53	-1.91	-4.51	-5.60
12	0	.45	2.76	5.14	9.97	14.91	17.46	18.71	.36	-1.85	-3.94	-4.76
13	.01	.47	2.80	5.23	10.18	15.24	17.83	19.11	.38	-1.84	-3.95	-4.74
14	.01	.55	3.09	5.67	10.81	15.97	18.58	19.88	.47	-2.06	-4.71	-5.75
15	.0	.47	2.76	5.10	9.78	14.53	16.92	18.12	.49	-1.84	-4.35	-5.35
16	.01	-.67	2.25	5.18	11.01	16.84	19.74	21.20	-.73	-3.47	-6.33	-7.50
17	.02	-.62	2.19	5.00	10.60	16.22	19.00	20.41	-.68	-3.34	-6.17	-7.30
18	.0	-.65	2.22	5.09	10.75	16.38	19.[illegible]	20.55	-.76	-3.52	-6.54	-7.73
19	0	-.53	1.97	4.48	9.44	14.43	16.21	18.16	-.55	-2.98	-5.65	-6.69
20	.01	-.18	2.30	4.81	9.77	14.73	17.20	18.45	.06	-2.54	-5.30	-6.43
21	.01	-.20	2.26	4.81	9.96	15.20	17.8[illegible]	19.14	-.08	-2.52	-4.89	-5.78
22	.02	-.18	2.25	4.80	10.03	15.39	18.[illegible]	19.45	-.03	-2.41	-4.58	-5.39
23	.02	-.14	2.47	5.15	10.52	15.[illegible]	19.[illegible]	20.00	-.01	-2.61	-5.06	-6.03
24	.02	-.10	2.32	4.78	9.72	14.71	17.21	18.54	.15	-2.33	-4.85	-5.88

* With Buckling Restrainers Installed

Table 42. Strain Gage Results at Start of Test - AFCG-4 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø H.F.	Ø B.I.*	5	10	20	30	35	37.5	ØBI.*	-5	-10	-12
25	.07	.59	2.94	5.42	10.45	15.53	18.07	19.35	.57	-2.03	-4.68	-5.67
26	.08	.68	3.28	6.00	11.47	16.95	19.65	21.01	.58	-2.26	-5.11	-6.19
27	.27	.89	3.54	6.30	11.87	17.44	20.19	21.57	.77	-2.11	-4.95	-6.04
28	.26	.90	3.61	6.45	12.15	17.84	20.66	22.09	.78	-2.14	-4.97	-6.21

* With Buckling Restrainers Installed

Table 43. Strain Gage Results at 2 Flights - AFCG-4

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 2 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø H.F.	Ø B.I.*	10	20	30	40	50	60	ØBI*	-10	-12	ØBI*
1	0.39	.50	2.93	5.45	7.95	10.48	13.03	15.57	.52	-1.73	-2.21	.48
2	0.38	1.14	3.53	6.07	8.63	11.22	13.84	16.43	1.15	-1.25	-1.74	1.02
3	0.90	1.21	3.40	5.87	8.44	11.02	13.65	16.28	1.23	-.64	-1.09	1.01
4	0.99	1.83	4.14	6.70	9.28	11.86	14.48	17.10	1.86	-.14	-.64	1.69
5	-1.49	-.59	1.83	4.39	7.11	9.79	12.48	15.16	-.59	-3.90	-4.44	-1.05
6	-0.24	.63	3.26	5.96	8.72	11.42	14.13	16.82	.67	-2.84	-3.46	.31
7	.33	.59	2.78	5.05	7.30	9.59	11.89	14.18	.61	-1.52	-1.97	.54
8	.66	1.03	3.15	5.41	7.67	9.94	12.23	14.51	1.04	-.98	-1.42	.92
9	-.15	.13	2.43	4.77	7.07	9.39	11.71	14.02	.16	-2.43	-2.91	.10
10	.10	1.54	3.85	6.25	8.63	11.00	13.40	15.76	1.56	-1.00	-1.48	1.44
11	.91	.73	5.43	10.23	14.93	19.68	24.46	29.22	.91	-4.21	-5.37	.59
12	1.01	.94	5.67	10.67	15.67	20.78	25.97	31.12	.90	-3.58	-4.39	.86
13	.58	—	—	—	—	—	—	—	—	—	—	—
14	.52	.28	5.54	10.93	16.21	21.54	26.91	32.21	.30	-5.39	-6.46	.19
15	.45	.50	5.23	10.11	14.93	19.83	24.79	29.73	.64	-4.58	-5.63	.39
16	.30	2.01	7.73	13.66	19.69	25.89	32.19	38.47	2.07	-3.68	-4.86	1.93
17	.00	.84	6.30	11.93	17.52	23.22	28.99	34.74	.89	-4.64	-5.74	.77
18	-.30	.16	5.78	11.49	17.07	22.69	28.34	33.94	.16	-5.67	-6.82	.09
19	-.37	.24	5.10	10.10	15.02	20.00	25.03	30.06	.31	-4.76	-5.78	.16
20	.97	1.49	6.21	11.11	15.95	20.80	25.68	30.53	1.59	-3.72	-4.80	1.25
21	.92	1.50	6.32	11.47	16.63	21.85	27.11	32.35	1.51	-3.45	-4.32	1.28
22	1.18	—	—	—	—	—	—	—	—	—	—	—
23	1.64	2.14	7.09	12.38	17.66	23.00	28.38	33.73	2.13	-2.72	-3.66	1.89
24	1.70	2.06	6.63	11.48	16.34	21.24	26.20	31.14	2.17	-2.53	-3.52	1.83

* With Buckling Restrainers Installed

Table 43. Strain Gage Results at 2 Flights - AFCG-4 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 2 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	Ø H.F.	Ø B.I.*	10	20	30	40	50	60	ØB.I.*	-10	-12	ØB.I.*
25	-.51	-.27	4.63	9.85	15.09	20.39	25.76	31.10	-.21	-5.71	-6.77	-.53
26	-.32	.07	5.47	11.17	16.86	22.59	28.39	34.12	.10	-5.83	-6.93	-.21
27	-.10	1.17	6.62	12.41	18.21	24.10	30.04	35.94	1.19	-4.71	-5.80	.87

* With Buckling Restrainers Installed

Table 44. Strain Gage Results at 499 Flights - AFCG-4

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 499 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)										
	ØB.I.*	10	20	30	40	50	60	ØB.I.*	-10	-12	ØB.I.*
1	.49	2.92	5.43	7.93	10.50	13.01	15.58	.51	-1.76	-2.21	.47
2	1.17	3.61	6.10	8.66	11.29	13.87	16.50	1.18	-1.24	-1.70	1.07
3	1.15	3.48	5.81	8.35	11.00	13.59	16.26	1.17	-.74	-1.15	.96
4	1.80	4.21	6.66	9.22	11.86	14.43	17.09	1.83	-.20	-.66	1.67
5	-.49	1.98	4.46	7.12	9.87	12.53	15.24	-.52	-3.85	-4.36	-.96
6	.65	3.34	5.95	8.67	11.43	14.09	16.82	.67	-2.86	-3.43	.33
7	.60	2.81	5.05	7.29	9.61	11.87	14.20	.62	-1.52	-1.95	.56
8	.98	3.16	5.35	7.60	9.91	12.17	14.48	.99	-1.06	-1.47	.89
9	.06	2.37	4.68	6.98	9.33	11.61	13.95	.09	-2.51	-2.97	.04
10	1.39	3.75	6.09	8.47	10.89	13.23	15.63	1.42	-1.19	-1.63	1.31
11	.81	5.57	10.27	14.96	19.78	24.46	29.27	.99	-4.16	-5.25	.69
12	1.00	5.77	10.70	15.69	20.85	25.94	31.17	.96	-3.55	-4.32	.94
13	—	—	—	—	—	—	—	—	—	—	—
14	.37	5.68	10.97	16.24	21.63	26.89	32.27	.40	-5.33	-6.34	.31
15	.55	5.32	10.11	14.92	19.89	24.74	29.74	.69	-4.56	-5.55	.47
16	2.25	9.04	13.93	20.04	26.43	32.69	39.15	2.34	-3.54	-4.65	2.21
17	.93	6.43	12.01	17.62	23.43	29.12	34.98	1.00	-4.60	-5.64	.91
18	.21	5.87	11.52	17.11	22.81	28.37	34.07	.24	-5.66	-6.73	.19
19	.28	5.18	10.11	15.04	20.11	25.06	30.16	.36	-4.75	-5.69	.25
20	1.50	6.35	11.11	15.92	20.85	25.64	30.54	1.60	-3.76	-4.77	1.28
21	1.49	6.44	11.46	16.59	21.89	27.05	32.35	1.50	-3.52	-4.33	1.30
22	—	—	—	—	—	—	—	—	22.60	11.18	—
23	2.10	7.21	12.35	17.61	23.00	28.29	33.72	2.09	-2.82	-3.70	1.88
24	2.10	6.81	11.52	16.35	21.32	26.19	31.19	2.20	-2.55	-3.48	1.88

* With Buckling Restrainers Installed

Table 44. Strain Gage Results at 499 Flights - AFCG-4 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 499 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØBI*	10	20	30	40	50	60	ØBI*	-10	-12	ØB.I*	
25	-.28	4.77	9.84	15.05	20.46	25.76	31.19	-.21	-5.78	-6.77	-.50	
26	.15	5.68	11.23	16.89	22.75	28.47	34.32	.18	-5.78	-6.80	-.10	
27	1.42	7.01	12.64	18.42	24.44	30.33	36.36	1.45	-4.46	-5.46	1.17	
28	—	—	—	—	—	—	—	66.55	60.18	56.73	60.06	

* With Buckling Restrainers Installed

Table 45. Strain Gage Results at 631 Flights - AFCG-4

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 631 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)										
	ØBI*	10	20	30	40	50	60	ØBI*	-10	-12	ØB.I*
1	.37	—	5.36	7.87	10.41	12.94	15.52	.45	-1.88	-2.99	.42
2	1.16	—	6.16	8.72	11.34	15.05	16.60	1.23	-1.21	-1.68	1.12
3	1.01	—	5.73	8.27	10.90	13.52	16.21	1.07	-.84	-1.27	.88
4	1.82	4.19	6.76	9.32	11.92	14.55	17.20	1.90	-.13	-.60	1.76
5	-.54	1.92	4.50	7.16	9.87	12.55	15.26	-.48	-3.85	-4.37	-.93
6	.60	3.27	5.97	8.68	11.41	14.10	16.82	.69	-2.86	-3.44	.36
7	.56	2.78	5.04	7.28	9.57	11.85	14.18	.63	-1.52	-1.96	.58
8	.87	3.04	5.29	7.54	9.82	12.10	14.42	.93	-1.12	-1.54	.84
9	-.12	2.22	4.54	6.83	9.15	11.45	13.77	-.05	-2.65	-3.12	-.07
10	1.25	3.60	6.00	8.35	10.74	13.10	15.47	1.32	-1.28	-1.74	1.24
11	.68	5.45	10.17	14.85	19.58	24.29	29.10	.93	-4.21	-5.31	.67
12	1.00	5.81	10.76	15.74	20.84	25.95	31.18	1.07	-3.46	-4.26	1.06
13	—	—	—	—	—	—	—	—	—	—	—
14	.37	5.71	11.03	16.28	21.59	26.87	32.25	.51	-5.24	-6.27	.43
15	.44	5.22	10.04	14.82	19.70	24.58	29.57	.65	-4.60	-5.60	.47
16	2.21	8.15	14.15	20.43	26.92	33.37	40.03	2.44	-3.56	-4.75	2.33
17	.96	6.55	12.18	17.84	23.64	29.43	35.37	1.16	-4.50	-5.59	1.08
18	.25	6.00	11.71	17.33	23.01	28.64	34.31	.41	-5.54	-6.65	.36
19	.13	5.09	10.07	15.01	20.03	25.04	30.18	.32	-4.81	-5.77	.26
20	1.33	6.15	11.03	15.82	20.67	25.48	30.38	1.55	-3.[illegible]	-4.85	[illegible]
21	1.38	6.30	11.43	16.55	21.77	26.[illegible]	32.24	1.51	-3.[illegible]	-4.38	1.33
22	—	—	—	—	—	—	—	—	4[illegible].60	76.60	—
23	1.95	7.02	12.29	17.52	22.95	28.16	33.57	2.07	-2.58	-3.77	1.88
24	1.96	6.63	11.45	16.25	21.15	26.04	31.04	2.18	-2.57	-3.54	1.91

* With Buckling Restrainers Installed

Table 45. Strain Gage Results at 631 Flights - AFCG-4 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 631 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60	ØBI*	-10	-12	ØBI*	
25	-.34	4.71	9.94	15.17	20.55	25.93	31.42	-.13	-5.77	-6.81	-.40	
26	.26	5.77	11.48	17.18	23.04	28.86	34.78	.45	-5.50	-6.54	.18	
27	1.92	7.48	13.27	19.13	25.18	31.21	37.36	2.13	-3.74	-4.74	1.86	
28	—	—	—	—	—	—	—	—	—	—	—	

* With Buckling Restrainers Installed

Table 46. Strain Gage Results at 670 Flights - AFCG-4

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 670 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)										
	ØB.I.*	10	20	30	40	50	60	ØB.I.*	-10	-12	ØB.I.*
1	.48	2.92	5.43	7.93	10.48	13.01	15.58	.49	-1.73	-2.21	.48
2	1.31	3.73	6.27	8.84	11.47	14.09	16.73	1.32	-1.06	-1.56	1.23
3	1.17	3.40	5.87	8.40	11.04	13.67	16.34	1.19	-.66	-1.12	1.00
4	2.10	4.43	6.99	9.56	12.18	14.80	17.45	2.12	.15	-.36	1.98
5	-.31	2.14	4.69	7.35	10.06	12.74	15.44	-.30	-3.59	-4.15	-.73
6	.77	3.42	6.09	8.81	11.54	14.24	16.95	.80	-2.69	-3.31	.48
7	.66	2.87	5.12	7.36	9.66	11.94	14.26	.67	-1.42	-1.88	.64
8	1.01	3.16	5.40	7.64	9.93	12.21	14.51	1.02	-.98	-1.41	.94
9	.07	2.39	4.70	6.99	9.32	11.62	13.95	.09	-2.46	-2.96	.07
10	1.43	3.75	6.14	8.49	10.88	13.24	15.62	1.45	-1.09	-1.57	1.37
11	.74	5.47	10.21	14.87	19.60	24.34	29.10	.85	-4.16	-5.33	.64
12	1.03	5.77	10.71	15.68	20.78	25.89	31.08	.98	-3.43	-4.27	1.01
13	—	—	—	—	—	—	—	—	—	—	—
14	.34	5.63	10.94	16.18	21.50	26.79	32.13	.35	-5.27	-6.36	.32
15	.53	5.29	10.10	14.89	19.78	24.67	29.62	.62	-4.51	-5.57	.48
16	2.19	8.07	14.09	20.43	26.99	33.52	40.17	2.23	-3.65	-4.92	2.19
17	1.16	6.70	12.31	17.97	23.79	29.61	35.54	1.20	-4.32	-5.47	1.18
18	.35	6.04	11.73	17.34	23.03	28.67	34.39	.34	-5.45	-6.63	.36
19	.33	5.25	10.22	15.16	20.20	25.22	30.33	.37	-4.62	-5.64	.32
20	1.46	6.21	11.06	15.85	20.69	25.50	30.36	1.53	-3.70	-4.80	1.27
21	1.57	6.42	11.52	16.62	21.84	27.03	32.28	1.57	-3.34	-4.23	1.41
22	—	—	—	—	—	—	—	—	—	—	—
23	2.12	7.12	12.35	17.57	22.90	28.20	33.58	2.11	-2.70	-3.66	1.92
24	2.05	6.65	11.45	16.25	21.14	26.03	30.99	2.13	-2.50	-3.51	1.85

* With Buckling Restrainers Installed

Table 46. Strain Gage Results at 670 Flights - AFCG-4 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 670 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)										
	ØBI*	10	20	30	40	50	60	ØBI*	-10	-12	ØBI*
25	-.16	4.83	10.03	15.27	20.66	26.05	31.50	-.11	-5.62	-6.72	-.34
26	.40	5.84	11.52	17.23	23.11	28.96	34.85	.43	-5.36	-6.44	.20
27	—	—	—	—	—	—	82.89	25.30	26.39	27.61	43.22
28	—	—	—	—	—	—	—	—	—	—	—

* With Buckling Restrainers Installed

Table 47. Strain Gage Results at 802 Flights - AFCG-4

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 802 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØB.I.*	10	20	30	40	50	60	ØB.I.*	-10	-12	ØB.I.*	
1	.51	2.92	5.41	7.95	10.49	13.03	15.58	.49	-1.72	-2.21	.48	
2	1.34	3.75	6.29	8.90	11.53	14.18	16.81	1.32	-1.05	-1.56	1.24	
3	1.06	3.28	5.68	8.22	10.80	13.40	16.01	1.05	-.76	-1.22	.88	
4	2.09	4.39	6.89	9.44	12.00	14.57	17.16	2.09	.16	-.35	1.95	
5	-.48	1.93	4.47	7.14	9.79	12.43	15.05	-.46	-3.77	-4.32	-.86	
6	1.06	3.66	6.31	9.07	11.69	14.34	16.97	1.08	-2.42	-3.04	.78	
7	.68	2.86	5.09	7.35	9.63	11.91	14.20	.68	-1.38	-1.85	.65	
8	.97	3.09	5.31	7.57	9.84	12.11	14.39	.96	-1.02	-1.45	.88	
9	.06	2.34	4.63	6.94	9.24	11.55	13.84	.06	-2.49	-2.98	.05	
10	1.45	3.75	6.10	8.47	10.84	13.20	15.54	1.44	-1.09	-1.57	1.38	
11	.88	5.54	10.21	14.90	19.57	24.28	28.98	.99	-3.92	-5.10	.80	
12	1.06	5.73	10.59	15.59	20.63	25.71	30.80	.97	-3.36	-4.19	1.03	
13	—	—	—	—	—	—	—	—	—	—	—	
14	.44	5.63	10.86	16.13	21.38	26.64	31.89	.41	-5.12	-6.21	.42	
15	.58	5.25	10.00	14.80	19.63	24.49	29.37	.65	-4.42	-5.49	.53	
16	.64	6.61	12.75	19.46	26.16	32.83	39.52	.66	-5.43	-6.78	.62	
17	1.48	7.00	12.62	18.44	24.35	30.30	36.28	1.48	-4.11	-5.31	1.48	
18	.54	6.20	11.86	17.58	23.29	28.99	34.69	.49	-5.32	-6.51	.53	
19	.51	5.42	10.38	15.43	20.49	25.58	30.69	.55	-4.45	-5.47	.51	
20	1.59	6.27	11.04	15.85	20.63	25.41	30.19	1.63	-3.55	-4.64	1.39	
21	1.60	6.38	11.40	16.53	21.67	26.82	31.98	1.55	-3.31	-4.19	1.42	
22	—	—	—	—	—	—	—	—	—	—	—	
23	2.12	7.04	12.19	17.43	22.69	27.97	33.25	2.05	-2.67	-3.62	1.90	
24	2.16	6.69	11.42	16.23	21.06	25.92	30.80	2.21	-2.35	-3.36	1.95	

* With Buckling Restrainers Installed

Table 47. Strain Gage Results at 802 Flights - AFCG-4 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 802 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)										
	ØB.I.*	10	20	30	40	50	60	ØB.I.*	-10	-12	ØB.I.*
25	.01	4.99	10.16	15.50	20.92	26.37	31.83	.01	-5.56	-6.69	-.20
26	.68	6.08	11.73	17.58	23.51	29.46	35.40	.64	-5.08	-6.14	.44
27	—	—	—	—	—	—	—	—	—	—	—
28	—	—	—	—	—	—	—	—	—	—	—

* With Buckling Restrainers Installed

Table 48. Strain Gage Results at 876 Flights - AFCG-4

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 876 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)										
	ØB.I.*	10	20	30	40	50	60	ØB.I.*	-10	-12	ØB.I.*
1	.53	2.97	5.46	8.00	10.54	13.08	15.64	.55	-1.69	-2.16	.52
2	1.41	3.83	6.38	9.01	11.66	14.30	16.96	1.42	-.99	-1.47	1.32
3	1.12	3.32	5.72	8.24	10.81	13.39	15.99	1.14	-.67	-1.11	.96
4	2.11	4.39	6.87	9.41	11.97	14.52	17.11	2.13	.20	-.28	1.97
5	-.33	2.03	4.53	7.19	9.83	12.45	15.07	-.34	-3.59	-4.11	-.74
6	1.28	3.88	6.50	9.19	11.84	14.46	17.10	1.30	-2.14	-2.72	1.06
7	.71	2.89	5.12	7.39	9.66	11.94	14.24	.72	-1.36	-1.80	.68
8	1.04	3.16	5.38	7.64	9.91	12.18	14.47	1.04	-.94	-1.36	.96
9	.13	2.41	4.69	7.00	9.30	11.59	13.89	.14	-2.40	-2.87	.13
10	1.51	3.81	6.15	8.52	10.88	13.22	15.58	1.53	-1.00	-1.46	1.46
11	.87	5.53	10.19	14.86	19.54	24.22	28.95	.98	-3.97	-5.06	.77
12	1.09	5.78	10.64	15.63	20.67	25.73	30.87	1.06	-3.33	-4.13	1.06
13	—	—	—	—	—	—	—	—	—	—	—
14	.46	5.66	10.88	16.13	21.38	26.61	31.89	.48	-5.10	-6.13	.42
15	.59	5.26	9.98	14.78	19.60	24.44	29.34	.67	-4.41	-5.41	.53
16	-1.72	4.41	10.75	17.59	24.27	30.82	37.43	-1.67	-8.06	-9.39	-1.78
17	1.73	7.31	12.95	18.80	24.78	30.78	36.87	1.78	-3.94	-5.11	1.72
18	.64	6.32	11.99	17.71	23.44	29.14	34.89	.64	-5.23	-6.38	.63
19	.57	5.49	10.45	15.49	20.58	25.66	30.82	.63	-4.39	-5.35	.55
20	1.58	6.25	11.01	15.80	20.58	25.33	30.14	1.65	-3.53	-4.55	1.41
21	1.68	6.45	11.46	16.58	21.71	26.84	32.02	1.68	-3.19	-4.03	1.53
22	—	—	—	—	—	—	—	—	—	—	—
23	2.19	7.11	12.26	17.51	22.76	28.01	33.33	2.18	-2.59	-3.50	2.01
24	2.15	6.67	11.40	16.21	21.04	25.88	30.78	2.22	-2.35	-3.30	1.97

* With Buckling Restrainers Installed

Table 48. Strain Gage Results at 876 Flights - AFCG-4 (Continued)

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: FLIGHT 876 COMPLETE MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	ØBI*	10	20	30	40	50	60	ØBI*	-10	-12	ØBI*	
25	.09	5.07	10.27	15.64	21.07	26.54	32.08	.13	-5.51	-6.60	-.10	
26	.96	6.35	12.03	17.93	23.88	29.88	35.92	.99	-4.70	-5.69	.76	
27	—	—	—	—	—	—	—	—	—	—	81.44	
28	—	—	—	—	—	—	—	—	—	—	—	

* With Buckling Restrainers Installed

Table 49. Strain Gage Results at Start of Test - AFCG-5

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: AT START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	HF"0"	BI"0"	5	10	15	20	25	30	35	37.5	EI"0"	
1	0	.206	1.504	2.750	3.976	5.253	6.499	7.725	9.002	9.610	.124	
2	0	.206	1.473	2.740	3.976	5.253	6.468	7.725	9.002	9.610	.124	
3	0	.670	1.978	3.296	4.635	5.974	7.292	8.631	9.940	10.609	.618	
4	0	-.330	1.030	2.369	2.718	5.057	6.396	7.766	9.126	9.826	-.268	
5	0	.762	2.019	3.296	4.594	5.912	7.210	8.549	9.888	10.568	.824	
6	0	-.330	1.030	2.390	3.718	5.057	6.345	7.674	8.971	9.620	-.361	
7	0	.412	1.576	2.740	3.832	5.057	6.130	7.323	8.498	9.064	.361	
8	0	.103	1.236	2.328	3.471	4.584	5.717	6.839	9.033	8.570	.124	
9	0	.340	1.494	2.740	3.790	4.923	6.077	7.210	8.374	8.940	.319	
10	0	.082	1.236	2.369	3.512	4.656	5.789	6.932	8.096	8.662	.052	

Table 50. Strain Gage Results at Start of Test - AFCG-6

H.F. HANGING FREE B.I. BOLTED IN

STRAIN GAGE NO.	TEST CONDITION: AT START OF TEST MEASURED STRESS (KSI) AT APPLIED AXIAL LOAD (KIPS)											
	0 H.F.	0 B.I.*	10	20	30	35	0 B.I.*	-10	-20	-25	-30	0 B.I.*
1	0	-.02	2.43	4.97	7.52	8.80	-.04	-2.58	-5.15	-6.43	-7.67	-.16
2	0	.10	2.48	5.00	7.49	8.73	.02	-2.47	-5.00	-6.25	-7.50	-.06
3	0	-1.24	1.63	4.36	7.13	8.57	-1.24	-4.02	-6.81	-7.98	-9.56	-1.26
4	0	1.13	3.75	6.45	9.13	10.46	1.07	-1.47	-4.38	-5.73	-7.08	.98
5	0	-.21	2.35	4.87	7.42	8.69	-.37	-2.90	-5.41	-6.63	-7.88	-.23
6	0	.12	2.63	5.17	7.73	9.04	.00	-2.52	-5.06	-6.28	-7.57	.16
7	0	.66	2.81	5.03	7.23	8.36	.62	-1.61	-3.74	-4.77	-6.80	.59
8	0	-.62	1.78	4.18	6.59	7.79	.66	-3.11	-5.62	-6.94	-8.39	-.78
9	0	.52	2.65	4.78	6.91	8.03	-.45	-1.47	-3.77	-4.78	-6.80	5.65
10	0	-.54	1.78	4.09	6.43	7.59	-.59	-2.94	-5.36	-6.59	-7.93	-.66

* With Buckling Restrainers Installed

SECTION IV
CRACK PROPAGATION DATA

This section contains tabulated results of crack length versus cycles for each specimen tested. The data is reported herein exactly as recorded. Reading errors which are inevitable, particularly with small flaws such as the corner flaws of holes 1 and 2, have not been corrected. The proper use of this data would be to utilize the best fit curve through an expanded plot. This is the procedure utilized in the analysis of this report presented in Volume I.

The crack propagation results are presented in Tables 51 through 62. Plots of the test data are presented in Figures 33 through 44.

Table 51. Crack Propagation Data From Side 1 - AFCG-1

○ SPECIMEN FLAWS □ CRACK GAGE FLAWS

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
EDM					.1992	.4959	.1819	.4938	.5398
0									
3000	.0035	.0294	.0579	.0615	.2300	.5184	.3025	.6283	.7885
3400						.5209	.3667	.6453	.8140
3800							.3906	.6605	.8561
4200			.0695	.0693	.2383	.5246	.4112	.6748	.8837
4800								.7077	.9268
5400								.7329	.9846
6000								.7509	1.0340
6600		.0311	.1017	.0910	.2555	.5344	.5690	.7778	1.0746
7200							.6064	.8048	1.1230
7600							.6470	.8270	1.1495
8000		.0336	.1226	.1081	.2654	.5414	.6634	.8444	1.1853
8400							.6935	.8580	1.2259
8800							.7148	.8773	1.2659
9200							.7504	.8913	1.2980
9600							.7790	.9090	1.3269
10000							.8111	.9261	1.3596
10400			.1594	.1345	.2896	.5443	.8388	.9421	1.4073
10800		.0355	.2020			.5550	.8701	.9608	1.4385
11200							.9007	.9764	1.4754
11600							.9268	.9933	1.5096
12000							.9585	1.0061	1.5368
12400							.9811	1.0251	1.5780
12800							1.0044	1.0414	1.6068
13200				.1706	.3166		1.0332	1.0549	1.6400
13600							1.0693	1.0704	1.6778
14000							1.1023	1.0984	1.7291
14400							1.1369	1.1159	1.7687
14900							1.1662	1.1340	1.8067
15200							1.2019	1.1516	1.8541
15600			.2479	.2056	.3463	.6107	1.2286	1.1658	1.9027
15800							1.2420	1.1792	1.9434
16000							1.2564	1.1828	
16600							1.2971	1.2043	

Table 51. Crack Propagation Data From Side 1 - AFCG-1 (Continued)

○ SPECIMEN FLAWS □ CRACK GAGE FLAWS

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
17000							1.3261	1.2216	
17600			.2802	.2300	.3699	.5645	1.3766	1.2448	
18200							1.4231	1.2848	
18800							1.4739	1.3123	
19400							1.5290	1.3358	
20000				.2701	.4087		1.5399	1.3706	
20600							1.6300	1.3886	
21200							1.6730	1.4228	
21800							1.7155	1.4463	
22200			.3246	.3087	.6540	.5712	1.7161	1.4697	
22800			.3745			.5767	1.8350	1.4973	
23400			.4080	.3303	.4798	.5802		1.5326	
24000								1.5507	
24600								1.5896	
25800								1.6473	
26400								1.6734	
27000								1.6991	
27600			.5249	.4274	.5950	.5946		1.7397	
28400								1.7707	
29000								1.7878	
30000								1.8267	
31000			.6217	.5125	.7223	.6040		1.8840	
32000			.6575	.5453				1.9388	
33000			.6922	.5790	.8093	.6125			
34000			.7270	.6070	.8615				
35000			.7522	.6434	.9207				
36000		.0621	.7993	.6772	.9780	.6217			
37000						.6241			
42000						.6414			
48000		.0848				.6599			
53000		.0989				.6746			
54800		.1072				.6817			
57200		.1166				.6869			
59600		.1265				.6974			
62400		.1391				.7039			

Table 51. Crack Propagation Data From Side 1 - AFCG-1 (Concluded)

○ SPECIMEN FLAWS □ CRACK GAGE FLAWS

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
64600		.1485				.7170			
67000		.1630				.7240			
68600		.1700				.7309			
71000		.1837				.7409			
73200		.1990				.7511			
74800		.2125				.7551			
77000		.2285				.7628			
78600		.2402				.7669			
79600		.2467				.7689			
80600		.2569				.7727			

Table 52. Crack Propagation Data From Side 2 - AFCG-1

○ SPECIMEN FLAWS □ CRACK GAGE FLAWS

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
EDM					.2058	.4956	.1834	.4940	.5395
0									
3000			.0645	.0768	.2315	.5021	.3115	.5460	.8145
3400							.3343	.5539	.8460
3800							.3625	.5668	.8842
4200			.0785	.0885	.2435	.5024	.3790	.5840	.9317
4800									.9769
5400									1.0330
6000									1.0825
6600			.1065	.1176	.2702	.5080	.5041	.6710	1.1320
7200							.5400	.6940	1.1911
7600							.5588	.7107	1.2285
8000			.1299	.1301	.2845	.5088	.5877	.7315	1.2639
8400							.6037	.7434	1.2964
8800							.6353	.7576	1.3298
9200							.6527	.7760	1.3702
9600							.6820	.7930	1.3978
10000							.7075	.8074	1.4321
10400			.1684	.1673	.3081	.5227	.7311	.8249	1.4651
10800							.7544	.8423	1.4964
11200							.7722	.8604	1.5291
11600							.8003	.8745	1.5713
12000							.8182	.8884	1.6036
12400							.8403	.9071	1.6310
12800							.8594	.9237	1.6633
13200			.2056	.1995	.3517	.5281	.8839	.9336	1.6968
13600							.9102	.9480	1.7418
14000							.9420	.9610	1.7754
14400							.9669	.9740	1.8189
14800							.9945	.9930	1.8646
15200							1.0187	1.0071	1.9131
15600			.2570	.2335	.3714	.5312	1.0461	1.0199	
15800							1.0645	1.0275	
16000							1.0708	1.0372	
16600							1.1030	1.0538	

Table 52. Crack Propagation Data From Side 2 - AFCG-1 (Continued)

○ SPECIMEN FLAWS □ CRACK GAGE FLAWS

TOTAL CYCLES	CRACK PROPAGATION DATA — FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
17000							1.1246	1.0690	
17600			.2810	.2525	.4085	.5331	1.1638	1.0944	
18200							1.1950	1.1155	
18800							1.2270	1.1375	
19400							1.2847	1.1641	
20000			.3332	.2980	.4495	.5376	1.3144	1.1872	
20600							1.3624	1.2120	
21200							1.4030	1.2337	
21800							1.4356	1.2520	
22200			.4760	.3518	.4988	.5501	1.4683	1.2682	
22800							1.5161	1.2915	
23400			.4096	.3629	.5140	.5550	1.5555	1.3148	
24000							1.6017	1.3332	
24600							1.6496	1.3592	
25200			.4543	.4005	.5651	.5548	1.6947	1.3832	
25800							1.7468	1.4066	
26400							1.7994	1.431	
27000							1.8603	1.4578	
27600							2.0275	1.4789	
28400								1.5055	
29000								1.5242	
30000								1.5550	
31000								1.5849	
32000								1.6173	
33000								1.6500	
34000								1.6874	
35000								1.7220	
36000			.8020	.7002	1.0239	.5850			
37000						.5816			
38000									
39000									
40000									
41000									
41600									
42000						.5994			

Table 52. Crack Propagation Data From Side 2 - AFCG-1 (Concluded)

○ SPECIMEN FLAWS □ CRACK GAGE FLAWS

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
48000						.6124			
53000						.6220			
54800									
57200									
59600						.6421			
62400									
64600						.6573			
67000						.6656			
68600						.6689			
71000						.6742			
74800						.6821			
78600						.6896			
79600						.6916			
80600						.6950			

Table 53. Crack Propagation Data From Side 1 - AFCG-2

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	(1)	(2)	(3)	(4)	(5)	6	7	8	9
EDM					.1974				
0	.2760	.3112	.0360	.0355	.2041	.4873	.5487	.4201	.1831
600			.0402	.0411	.2037	.4941	.5626	.4230	.1919
1600			.0446	.0446		.4940	.6006	.4442	.2101
2200			.0456	.0472		.4942	.6281	.4711	.2208
2800			.0543	.0553		.4950	.6615	.4824	.2420
3400			.0554	.0576		.4957	.6850	.4982	.2637
4000			.0594	.0613		.4960	.7085	.5145	.2785
4600			.0600	.0581		.4909	.7501	.5286	.2966
5200			.0651	.0637		.4978	.7832	.5408	.3203
5800			.0706	.0684		.4984	.8140	.5579	.3415
6400			.0752	.0719		.4972	.8403	.5738	.3613
7000							.8772	.5904	.3845
7600							.9073	.6092	.4017
8200							.9449	.6292	.4353
8800							.9795	.6440	.4591
9400			.0943	.0914		.4961	1.0058	.6632	.4852
10,000							1.0404	.6840	.5087
10600							1.0719	.6989	.5404
11200							1.1121	.7153	.5761
11800							1.1440	.7276	.5975
12400							1.1714	.7524	.6327
13000							1.1980	.7665	.6728
13600			.1303	.1230		.4983	1.2250	.7907	.7086
14200							1.2487	.8039	.7291
14800							1.2793	.8194	.7666
15400							1.3130	.8380	.7876
16000							1.3536	.8509	.8453
16600							1.4078	.8708	.8689
17200							1.4354	.8900	.9059
17800			.1604	.1586	.2152	.5056	1.4687	.9067	.9293
18400								.9198	.9674
19000								.9421	1.0022
19600								.9511	1.0380
20000								.9754	1.0770

Table 53. Crack Propagation Data From Side 1 - AFCG-2 (Continued)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
20800								.9896	1.1095
21400			.2039	.1875	.2152	.5066		1.0094	1.1364
22000								1.0201	1.1795
22600								1.0401	1.2072
23200								1.0521	1.2465
23800								1.0656	1.2797
24400								1.0781	1.3244
25000			.2407	.2234	.2171	.5055		1.1019	1.3564
25600								1.1181	1.3964
26200								1.1322	1.4467
26800								1.1492	1.4820
27400								1.1702	1.5248
28000								1.1818	1.5754
28600			.2848	.2595	.2192	.5089		1.2019	1.6222
29200								1.2268	1.6609
29800								1.2399	1.7097
30400								1.2577	1.7523
31000								1.2787	1.8086
31600								1.3036	1.8641
32200								1.3165	1.9483
32800			.3332	.3124		.5094		1.3353	
33400								1.3598	
34000								1.3810	
35200			.3735	.3436	.2290	.5129		1.4168	
36400								1.4571	
37600			.4120	.3800	.2300	.5157		1.4946	
38200			.4235	.3824	.2309	.5161		1.5115	
38800								1.5316	
39400			.4416	.4008				1.5495	
40600			.4577	.4239	.2372	.5168		1.5959	
42000			.4915	.4443	.2400	.5168		1.6427	
43200			.5126	.4488				1.6866	
44400			.5373	.4814				1.7251	
45600			.5590	.5046				1.7835	
46800			.5893	.5262				1.7965	

Table 53. Crack Propagation Data From Side 1 - AFCG-2 (Concluded)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8*	9
47800			.6168	.5399	.2497	.5226		1.8512	
49000			.6381	.5724	.2516	.5201			
50200			.6685	.5990					
51400			.6995	.6243					
52600			.7272	.6469	.2575	.5235			
53800			.7645	.6769					
55000			.8034	.7059	.2620	.5258			
63800					.2842	.5326			
71800					.3355	.5395			
78000					.3764	.5452			
83400					.4386	.5522			
88000					.5159	.5565			
90600					.5616				
92400					.6054	.5606			
98800					.7875	.5639			
101400					.8858				
102600					.9351	.5667			
103400					.9732	.5686			
108800						.5696			
124600						.5747			
143000						.5933			
161200	—	—	—	—	—	.6075	—	—	—

Table 54. Crack Propagation Data From Side 2 - AFCG-2

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
EDM									
0			.0354	.0496	.2070	.5095	.5479	.5043	.1956
600			.0401	.0570	.2072	.5100	.5612	.5101	.2039
1600			.0438	.0563	.2064	.5103	.5873	.5270	.2182
2200			.0464	.0598	.2075	.5105	.6082	.5405	.2348
2800			.0518	.0633	.2105	.5145	.6325	.5545	.2494
3400			.0538	.0660	.2122	.5162	.6542	.5703	.2660
4000			.0583	.0708	.2125	.5170	.6695	.5846	.2885
4600			.0612	.0731	.1324		.7060	.5920	.2985
5200			.0643	.0763		.5165	.7318	.6106	.3193
5800			.0674	.0810	.2160	.5172	.7627	.6245	.3368
6400			.0708	.0833		.5176	.7933	.6389	.3521
7000							.8165	.6506	.3720
7600							.8467	.6636	.3923
8200							.8832	.6813	.4122
8800							.9050	.6997	.4395
9400			.0918	.1066	.2204	.5231	.9396	.7145	.4635
10000							.9673	.7265	.4838
10600							.9966	.7445	.5091
11200							1.0253	.7643	.5304
11800							1.0500	.7768	.5527
12400							1.0734	.8113	.5702
13000							1.1086	.8080	.6001
13600			.1231	.1399	.2255	.5259	1.1356	.8237	.6238
14200							1.1667	.8402	.6484
14800							1.1922	.8549	.6725
15400							1.2228	.8728	.6971
16000							1.2594	.8896	.7238
16600							1.2931	.9034	.7491
17200							1.3128	.9224	.7765
17800			.1642	.1733	.2288	.5340	1.3287	.9384	.7995
18400							1.3303	.9538	.8283
19000							1.3970	.9728	.8549
19600							1.4393	.9864	.8806
20000							1.4735	.9960	.9000

Table 54. Crack Propagation Data From Side 2 - AFCG-2 (Continued)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
20800							1.5073	1.0147	.9323
21400			.1979	.2028	.2328	.5424	1.5430	1.0283	.9555
22000							1.5748	1.0438	.9813
22600							1.6122	1.0584	1.0091
23200							1.6509	1.0725	1.0373
23800							1.6855	1.0870	1.0620
24400							1.7218	1.1017	1.0950
25000			.2373	.2385	.2336	.5390	1.7535	1.1145	1.1247
25600							1.7970	1.1330	1.1575
26200							1.8391	1.1485	1.1829
26800							1.8905	1.1685	1.2125
27400							1.9213	1.1879	1.2402
28000								1.2001	1.2697
28600			.2751	.2768	.2403	.5399		1.2169	1.2969
29200								1.2331	1.3344
29800								1.2533	1.3702
30400								1.2675	1.3995
31000								1.2845	1.4374
31600								1.3039	1.4786
32200								1.3212	1.5112
32800			.3319	.3740	.2422	.5428		1.3351	1.5345
33400								1.3532	1.5609
34000								1.3683	1.5717
35200			.3670	.3553	.2460	.5450		1.3973	1.6829
36400								1.4311	
37600			.4059	.3836	.2466	.5480		1.4788	1.7567
38200			.4201	.3984	.2490	.5481		1.4900	
38800								1.5074	
39400			.4406	.4075				1.5259	
40600			.4602	.4280	.2536	.5493		1.5644	
42000			.4875	.4540	.2539	.5509		1.6074	
43200			.5069	.4687				1.6298	
44400			.5308	.4895				1.6712	
45600			.5578	.5107				1.7083	
46800			.5838	.5342				1.7346	

Table 54. Crack Propagation Data From Side 2 - AFCG-2 (Concluded)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
47800			.6043	.5517	.2591	.5562		1.7821	
49000			.6306	.5748					
50200			.6632	.6000					
51400			.6892	.6273					
52600			.7248	.6533	.2723	.5601			
53800			.7563	.6561					
55000			.7933	.7134	.2785	.5619			
63800					.3115	.5720			
71800					.3717	.5804			
79000					.4291	.5890			
83400					.4988	.5967			
88000					.5756	.6021			
90600					.6216				
92400					.6627	.6089			
98800					.8375	.6179			
101400					.9102	.6220			
102600					.9848	.6230			
103400					1.0266	.6237			
108800						.6287			
124600						.6423			
143000						.6656			
161200						.6960			

Table 55. Crack Propagation Data From Side 1 - AFCG-3

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	8	9	10
0	.0150	.0132	.0318	.0360	.2289	.2046	.5295	.2168	.2179
41	.0159	.0133	.0363	.0417	.2291	.2093	.5460	.2472	.2685
72	.0206	.0144	.0394	.0436	.2398	.2121	.5696	.2691	.2853
152	.0240	.0175	.0430	.0684	.2456	.2126	.6147	.3023	.3497
233	.0199	.0219	.0456	.0567	.2347	.2246	.6466	.3403	.3964
290	.0243	.0220	.0472	.0613	.2376	.2182	.6713	.3781	.4407
350	.0245	.0222	.0528	.0645	.2434	.2195	.6826	.3969	.4852
380	.0246	.0222	.0549	.0695	.2434	.2223	.6998	.4094	.5052
410	.0246	.0241	.0569	.0696	.2474	.2233	.7103	.4312	.5300
450	.0240	.0230	.0639	.0613	.2453	.2239	.7114	.4464	.5525
484	.0245	.0233	.0643	.0678	.2515	.2248	.7355	.4681	.5740
525	.0248	.0235	.0678	.0695	.2523	.2263	.7502	.4817	.6046
565	.0270	.0248	.0780	.0750	.2533	.2292	.7742	.5032	.6328
635	.0309	.0263	.0823	.0868	.2598	.2315	.7977	.5408	.6767
721	.0319	.0248	.0825	.0900	.2699	.2331	.8215	.5661	.7630
847	.0333	.0294	.0960	.0959	.2738	.2356	.8579	.6244	.8424
932	.0354	.0312	.1027	.1092	.2815	.2357	.8975	.6582	.9432
1000	.0389	.0339	.1110	.1158	.2879	.2394	.9175	.6904	1.0160
1070	.0390	.0341	.1181	.1192	.2946	.2395	.9460	.7072	1.1051
1095	.0396	.0265	.1225	.1213	.2970	.2392	.9556	.7385	1.1392
1115	.0400	.0262	.1238	.1247	.2996	.2430	.9662	.7500	1.1730
1155	.0430	.0307	.1256	.1345	.3010	.2444	.9809	.7727	1.2308
1195	.0453	.0365	.1299	.1398	.3036	.2491	.9934	.7951	1.2821
1253	.0465	.0392	.1380	.1451	.3081	.2500	1.0278	.8254	1.3593
1306	.0466	.0397	.1434	.1467	.3178	.2609	1.0404	.8536	1.4537
1373	.0467	.0391	.1501	.1574	.3216	.2568	1.0719	.8739	1.5715
1405	.0520	.0400	.1559	.1606	.3252	.2551	1.0904	.9060	1.6740
1453	.0525	.0423	.1620	.1640	.3285	.2565	1.1093	.9397	
1491	.0531	.0429	.1654	.1704	.3342	.2569	1.1242	.9724	
1516	——	——	.1703	.1835	.3348	——	1.1423	.9929	
1602	.0609	.0438	.1774	.1875	.4103	.2608	1.1790	1.0475	
1724	.0608	.0484	.1914	.1987	.3664	.2702	1.2323	1.0965	
1821	——	——	.2075	.2130	.3729	——	1.2517	1.1657	
1921	.0678	.0545	.2167	.2212	.3825	——	1.2850	1.1847	
2024	.0726	.0577	.2281	.2395	.3956	.2694	1.3129	1.2258	

Table 55. Crack Propagation Data From Side 1 - AFCG-3 (Continued)

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	(1)	(2)	(3)	(4)	(5)	6	8	9	10
2124	.0765	.0596	.2439	.2513	.4066	.2729	1.3535	1.2700	
2225	.0795	.0648	.2480	.2670	.4239	.2764	1.3789	1.3333	
2328	.0816	.0661	.2649	.2780	.4383	.2762	1.4027	1.3756	
2458	.0870	.0693	.2868	.2954	.4617	.2828	1.4510	1.4308	
2520	—	—	.2940	.3072	.4699	—	1.4763		
2595	.0930	.0710	.3047	.3169	.4862	.2831	1.4964		
2648	—	—	.3153	.3257	.4950	—	1.5258		
2700	.0971	.0731	.3266	.3360	.5080	2882	1.5390		
2757	—	—	.3304	.3576	.5223	—	1.5591		
2857	.1093	.0783	.3546	.3661	.5389	.2962	1.6103		
2945	—	—	.3733	.3843	.5763	—	1.6637		
3057	.1164	.0844	.3879	.4089	.5820	.3062	1.7231		
3104	—	—	.3992	.4222	.5992	—	1.7659		
3200	.1312	.0993	.4164	.4410	.6525	.3032	1.8004		
3260	—	—	.4265	.4575	.6472	—	1.8411		
3320	—	—	.4379	.4705	.6830	.3048	1.8762		
3380	.1342	.1037	.4511	.4822	.7059	.3070	1.9316		
3440	.1374	.1103	.4670	.5006	.7342	.3088			
3552	.1427	.1108	.4984	.5341	.7836	.3122			
3640	.1452	.1152	.5166	.5573	.8230	.3123			
3720	.1546	.1180	.5342	.5829	.8717	.3147			
3799	—	—	.5644	.6052	.9234	—			
3854	.1655	.1269	.5780	.6245	.9572	.3203			
3923	.1705	.1292	.5957	.6487		—			
3965	.1765	.1323	.6025	.6767		.3228			
4038	.1775	.1351	.6330	.6877		—			
4075	.1809	.1366	.6478	.7040		—			
4148	.1835	.1409	.6718	.7426		.3283			
4200	.1878	.1480	.7070	.7680		—			
4240	.1985	.1457	.7080	.7854		—			
4291	.1948	.1520	.7260	.8119		.3278			
4344	.2046	.1539	.7376			.3388			
4640	.2305	.1661				.3385			
4786	.2435	.1744				.3420			
4886	.2537	.1826				.3466			

Table 55. Crack Propagation Data From Side 1 - AFCG-3 (Concluded)

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	8	9	10
4996	.2655	.1920	|	|	|	.3502	|	|	|
5150	.2768	.2009	|	|	|	.3488	|	|	|

Table 56. Crack Propagation Data From Side 2 - AFCG-3

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	8	9	10
0			.0356	.0422	.2210	.2040	.5020	.2222	.2223
41			.0375	.0436	.2220	.2060	.5502	.2561	.2652
72			.0463	.0483	.2249	.2065	.5749	.2700	.3394
152			.0492	.0597	.2302	.2139	.6083	.3012	.3536
233			.0538	.0640	.2354	.2124	.6331	.3441	.3771
290			.0532	.0652	.2351	.2123	.6507	.3631	.4146
350			.0586	.0701	.2366	.2125	.6739	.3920	.4509
380			.0638	.0719	.2406	.2158	.6830	.4032	.4760
410			.0668	.0747	.2462	.2168	.6916	.4202	.5060
450			.0688	.0786	.2467	.2168	.7048	.4380	.5322
484			.0700	.0794	.2496	.2169	.7161	.4490	.5587
525			.0703	.0799	.2527	.2165	.7221	.4587	.5805
565			.0765	.0800	.2529	.2207	.7379	.4599	.6020
635			.1251	.0921	.2477	.2170	.7358	.5101	.6644
721			.0927	.0944	.2650	.2253	.7675	.5467	.7188
847			.0997	.0992	.2754	.2275	.8259	.6106	.8119
932			.1061	.1315	.2827	.2309	.8576	.6509	.8652
1000			.1128	.1253	.2838	.2312	.8879	.6736	.9370
1070			.1192	.1338	.2893	.2319	.9115	.7052	.9867
1095			.1230	.1361	.2920	.2319	.9145	.7292	1.0170
1115			.1267	.1393	.2963	.2339	.9216	.7405	1.0500
1155			.1285	.1454	.3019	.2363	.9412	.7603	1.0356
1195			.1386	.1540	.3068	.2366	.9620	.7706	1.1236
1253			.1432	.1546	.3084	.2421	.9734	.8029	1.1979
1306			.1490	.1603	.3160	.2422	.9875	.8351	1.2608
1373			.1545	.1653	.3222	.2421	1.0155	.8772	1.3063
1405			.1609	.1682	.3249	.2422	1.0287	.9049	1.3852
1453			.1616	.1772	.3280	.2442	1.0624	.9323	1.4162
1491			.1679	.1813	.3411	.2468	1.0771	.9528	1.4575
1516			.2216	.1919	.3425	——	1.0840	.9910	1.4938
1602			.1810	.2006	.3525	.2498	1.1066	1.0537	1.6384
1724			.1996	.2093	.3610	.2518	1.1378	1.0958	1.8255
1821			.2209	.2232	.3830	——	1.1647	1.2818	1.8591
1921			.2213	.2359	.3830	.2561	1.2024	1.2953	
2024			.2310	.2504	.3979	.2618	1.2393	1.3878	

Table 56. Crack Propagation Data From Side 2 - AFCG-3 (Continued)

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	8	9	10
2124			.2439	.2545	.4114	.2622	1.2775	1.4618	
2225			.2556	.2709	.4273	.2662	1.3122	1.5972	
2328			.2701	.2866	.4437	.2698	1.3462	1.6268	
2458			.2834	.3048	.4570	.2705	1.3863		
2520			.2940	.3146	.4820	—	1.4070		
2595			.3034	.3258	.5001	.2758	1.4447		
2648			.3096	.3355	.5063	—	1.4676		
2700			.3245	.3458	.5211	.2788	1.4983		
2757			.3300	.3568	.5334	—	1.5198		
2857			.3481	.3764	.5609	.2839	1.5666		
2945			.3654	.3962	.5771	—	1.6086		
3057			.3848	.4192	.6148	.2893	1.6667		
3104			.3947	.4295	.6224	—	1.7025		
3200			.4153	.4568	.6651	.2951	1.7272		
3260			.4308	.4672	.6817	—	1.7393		
3320			.4434	.4791	.7019	.2916	1.7763		
3380			.4578	.4948	.7298	.2932	1.8052		
3440			.4708	.5077	.7538	.2939	1.8386		
3552			.4968	.5382	.8162	.2968	1.9452		
3640			.5224	.5597	.8630	.2968			
3720			.5430	.5878	.9037	.2998			
3799			.5633	.6004	.9562	—			
3854			.5787	.6294	.9947	.3015			
3923			.5970	.6485		—			
3965			.6145	.6626		.3058			
4038			.6369	.7094		—			
4075			.6527	.7190		—			
4148			.6689	.7481		.3081			
4200			.7174	.7730		.3135			
4240			.7115	.7943		.3092			
4291			.7391	.8164		.3106			
4344			.7544			.3136			
4640						.3198			
4786						.3232			
4886						.3240			

Table 56. Crack Propagation Data From Side 2 - AFCG-3 (Concluded)

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	8	9	10
4996	|	|	|	|	|	.3268	|	|	|
5150	|	|	|	|	|	.3340	|	|	|

Table 57. Crack Propagation Data From Side 1 - AFCG-4

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	7	9	10
EDM	.0150	.0156	.0386	.0270	.2030	.2073	.5051	.2186	.5008
2	.0182	——	.0431	.0322	.2072	——	.5173	.2357	.5191
4	.0166	.0154	.0465	.0333	.2102	.2564	.5294	.2457	.5383
13	.0171	.0163	.0501	.0330	.2142	.2075	.5470	.2601	.5580
30	.0189	.0171	.0555	.0384	.2217	.2076	.5914	.2834	.5810
74	.0240	.0210	.0674	——	.2344	.2139	.5987	.3265	.6340
150	.0228	.0281	.1052	.0818	.2709	.2142	.6626	.3470	.6515
212	.0209	.0237	.1339	.1088	.2938	.2173	.6482	.3648	.6670
253	.0277	.0266	.1594	.1292	.3200	.2224	.6661	.3800	.6860
305	.0293	.0300	.1921	.1684	.3674	.2278	.6721	.3994	.7164
359	.0335	.0389	.2399	.2069	.4044	.2285	.6912	.4245	.7434
386	.0325	.0423	.2587	.2261	.4349	.2259	.7070	.4360	.7390
397	.0357	.0433	.2711	.2340	.4499	.2275	.7137	.4302	.8068
413	.0421	.0446	.2836	.2551	.4692	.2266	.7205	.4317	.7642
443	.0406	.0461	.3030	.2685	.5162	.2266	.8157	.4656	.7824
459	.0347	.0493	.3219	.2787	.5284	.2319	.7133	.4499	.7926
479	.0400	.0702	.3389	.2861	.5565	.2327	.7195	.4585	.7998
499	.0361	.0501	.3610	.3079	.5883	.2338	.7241	.4606	.7504
507	.0450	.0595	.3689	.3236	.6038	.2355	.7436	.4696	.8153
521	.0423	.0585	.3846	.3346	.6261	.2369	.7439	.4695	.8345
534	.0475	.0657	.3993	.3518	.6511	.2416	.7447	.4762	.8309
545	.0424	.0651	.4126	.3601	.6725	.2415	.7422	.4780	.8320
555	.0524	.0661	.4219	.3693	.6888	.2446	.7496	.4808	.8370
565	.0503	.0695	.4381	.3831	.7121	.2450	.7427	.4850	.8512
578	.0485	.0699	.4512	.3945	.7428	.2430	.7457	.4895	.8516
601	.0583	.0776	.4779	.4167	.7749	.2519	.7478	.5021	.8561
608	.0567	.0747	.4704	.4317	.7889	.2475	.7625	.5090	.8593
621	.0564	.0718	.4952	.4479	.8372	.2472	.7770	.5090	.8673
631	.0577	.0757	.5590	.4575	.8644	.2473	.7780	.5089	.8698
641	.0617	.0729	.5294	.4696	.8962	.2467	.7570	.5206	.8799
649	.0628	.0804	.5387	.4778	.9247	.2483	.7628	.5242	.8930
656	.0651	.0759	.5516	.4891	——	.2480	.7812	.5276	.8772
664	——	——	——	——	.9695	——	——	——	——
670	.0757	.0818	.5781	.5124	.9970	.2438	.7938	.5397	.9025
702	.0699	.0928	.6176	.5549	1	.2491	1.0710	.5111	.9261

Table 57. Crack Propagation Data From Side 1 - AFCG-4 (Continued)

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	7	9	10
722	.0767	.0940	.6476	.5713		.2546	.7873	.5415	.9376
744	.0768	.0986	.6866	.6071		.2550	.7870	.5476	.9471
762	.0764	.1055	.7061	.6395		.2551	.7884	.5475	.9473
779	.1063	.1125	.7474	.6754		.2598	.7938	.5543	1.0104
793	.0830	.1044	.7648	.6823		.2551	.7968	.5633	.9723
802	.0840	.1187	.7834	.7041		.2583	.8385	.5604	.9876
821	.0903	.1234		.7192		.2544	.7920	.5628	.9748
841	.1000	.1272		.7384		.2559	.7928	.5718	.9923
859	.1001	.1321		.7772		.2604	.8062	.5697	1.0214
876	.0992	.0933		.8230		.2636	.8067	.5816	1.0337
898	.1012	.1511				.2689	.8134	.5888	1.0255
920	.1013	.1659				.2689	.8251	.6064	1.0500
947	.1093	.1098				.3216	.8212	.6169	1.1136

Table 58. Crack Propagation Data From Side 2 - AFCG-4

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	7	9	10
EDM			.0328	.0364	.2006	.2034	.5068	.1141	.5067
2			.0340	.0369	.2380	.2066	.5196	.2315	.5157
4			.0315	.0360	.2379	.1999	.5185	.2418	.5328
13			.0330	.0375	.2399	.2025	.5363	.2540	.5515
30			.0385	.0460	.2425	.1990	.5565	.2757	.5756
74			.0505	.0575	.2560	.2079	.5825	.3069	.6066
150			.0962	.0806	.2798	.2263	.6547	.3382	.6522
212			.1257	.1197	.3052	.2224	.6386	.3620	.6666
253			.1597	.1413	.3264	.2277	.6465	.3739	.6801
305			.1890	.1710	.3527	.2269	.6549	.3888	.6710
359			.2255	.2083	.3963	.2316	.6686	.4090	.6741
386			.2452	.2319	.4248	.2346	.6750	.4245	.6753
397			.2571	.2357	.4359	.2339	.6788	.4265	.7244
413			.2771	.2596	.4577	.2371	.6888	.4360	.7428
443			.2992	.2687	.4780	.2382	.6957	.4408	.7445
459			.3118	.2876	.4961	.2400	.7041	.4522	.7580
479			.3367	.3046	.5262	.2449	.7041	.4572	.7723
499			.3521	.3168	.5546	.2455	.7162	.4640	.7747
507			.3622	.3224	.5690	.2427	.7179	.4653	.7774
521			.3713	.3375	.5920	.2430	.7200	.4705	.7806
534			.3880	.3486	.6113	.2436	.7231	.4760	.7832
545			.3517	.3578	.6330	.2446	.7275	.4792	.7810
555			.4160	.3669	.6503	.2443	.7269	.4811	.7960
565			.4275	.3776	.6770	.2454	.7302	.4825	.7956
578			.4475	.3912	.7035	.2970	.7375	.4929	.8034
601			.4801	.4136	.7596	.2510	.7521	.5163	.8183
608			.4907	.4220	.7672	.2595	.8147	.5016	.8161
621			.4988	.4306	.8000	.2530	.7612	.5077	.8265
631			.5114	.4465	.8284	.2531	.7665	.5087	.8261
641			.5233	.4630	.8536	.2532	.8130	.5150	.8284
649			.5365	.4743	.8794	.2525	.7691	.5286	.8311
655			.5471	.4811	.9022	.2530	.7702	.5215	.8396
664			.5676	.4942	.9259	.2524	.7795	.5260	.8538
670			.5711	.5008	.9972	.2552	.7782	.5275	.8434
702			.6194	.5444	1	.2584	.7865	.5394	.8606

Table 58. Crack Propagation Data From Side 2 - AFCG-4 (Continued)

TOTAL FLTS.	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10								
	①	②	③	④	⑤	6	7	9	10
722	|	|	.6484	.5726	|	.2582	.7951	.5479	.8717
744	|	|	.6797	.6010	|	.2606	.8055	.5541	.8758
762	|	|	.7033	.6291	|	.2605	.8117	.5644	.8910
779	|	|	.7365	.6548	|	.2589	.8208	.5682	.9000
793	|	|	.7646	.6786	|	.2588	.8262	.5744	.9072
802	|	|	.7823	.6896	|	.2593	.8388	.5800	.9117
821	|	|	|	.7166	|	.2634	.8475	.5814	.9326
841	|	|	|	.7590	|	.2766	.8462	.6359	.9535
859	|	|	|	.7822	|	.2598	.8407	.5947	.9489
876	|	|	|	.8196	|	.2749	.8504	.6000	.9662
898	|	|	|	|	|	.2744	.8647	.6060	.9809
920	|	|	|	|	|	.2728	.8849	.6197	.9981
948	|	|	|	|	|	.2728	.9096	.6330	1.0118

Table 59. Crack Propagation Data From Side 1 - AFCG-5

TOTAL CYCLES	CRACK PROPAGATION DATA								
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
0	.0198	.0172	.0388	.0407	.2096	.2063	.2163	.5068	.2212
600	.0226	.0192	.0467	.0465		.2536	[illegible]	.5237	[illegible]
1400	.0226	.	.0452	[illegible]		.2070	.2902	.5569	.2765
2200	.0220	.0233	.0453	.0570		.2122	.3226	.5876	.3020
3200	.0230	.0170	.0537	[illegible]		.2121	.3808	[illegible]	.3203
3600	.0223	.0202	.0622	[illegible]		.2204	.3950	.6302	[illegible]
4000	.0213	.0227	.0644	.0732		.2128	.4102	.6433	[illegible]
4600	[illegible]	.0210	.0687	.0733	.2104	.2152	.4[illegible]	.6729	[illegible]
5200	.0220	.0259	.0715	[illegible]	.2152	.2199	[illegible]	.6943	[illegible]
5800	.0237	.0255	.0791	[illegible]	.2172	.2221	[illegible]	[illegible]	[illegible]
6200	.0233	.0227	[illegible]	[illegible]	.2192	.2301	.5148	[illegible]	[illegible]
6800	.0259	.0238	.0872	[illegible]	.2240	[illegible]	[illegible]	.7[illegible]	[illegible]
7200			.0875	[illegible]		.2215	[illegible]	[illegible]71	.[illegible]29
7600			.0942	.[illegible]75		.2[illegible]	[illegible]	.7757	[illegible]20
8000			.0984	.1009		.2245	[illegible]	.7945	[illegible]25
8400			.1030	.1035	.2211	.2265	.6313	.805[illegible]	.[illegible]093
8800			.1048	.1111		.2280	.6631	.8[illegible]0	.[illegible]307
10,200	.1250	.0246	.1132	.1305	.2310	.2439	.7527	.8762	.7074
11,000			.1296	.1346	.2422	.2343	.8063	[illegible]	[illegible]
11400			.[illegible]93	.1407	.2[illegible]8	.2326	.8[illegible]	.9316	.7950
800	.0258	.0270	.[illegible]578	.[illegible]	.2[illegible]1	.2320	.8639	[illegible]	.[illegible]03
12200			.1[illegible]11	.[illegible]537	.2[illegible]	.2[illegible]28	.8905	[illegible]47	.8396
12600			.1[illegible]05	.1573	.2[illegible]32	.2[illegible]3	.9221	.9820	.8857
13000			.1[illegible]78	.1701	.2[illegible]48	.2431	.9512	.9872	.9079
13400	.0259	.0260	.1[illegible]93	.1740	.2[illegible]33	.2[illegible]8	.9857	1.[illegible]83	.9358
13800			.1624	.1727	.2[illegible]61	.2464	1.0148	1.0236	.9674
14200	.0288	.0264	.1[illegible]4	.1843	.2[illegible]57	.2446	1.0398	1.0383	.9950
14400			.1[illegible]81	.1875	.2627	.2[illegible]5	1.0985	1.0440	1.0114
14800			.1662	.1932	.2654	.2437	1.0710	1.0613	1.0367
15600			.1307	.2025	.2726	.2518	1.1385	1.0868	1.1018
16000	.0307	.0288	.1353	.2089	.2758	.2541	1.1598	1.1044	1.1264
16400			.1905	.2151	.2800	.2[illegible]3	1.1997	1.1168	1.1526
16800			.1970	.2189	.2854	[illegible]	1.2218	1.1309	1.1864
17200			.1995	.2251	.2891	.2576	1.2665	1.1504	1.2203
17600			.2029	.2270	.2941	.2574	1.2929	1.1648	1.2510

Table 59. Crack Propagation Data From Side 1 - AFCG-5 (Continued)

TOTAL CYCLES	CRACK PROPAGATION DATA								
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
18000	.0322	.0195	.2110	.2339	.2970	.2603	1.3275	1.1750	1.2750
18400			.2157	.2417	.3035	.2634	1.3635	1.1983	1.3044
18800			.2229	.2488	.3084	.2681	1.3893	1.2090	1.3326
19200	.0312	.0313	.2302	.2551	.3146	.2656	1.4169	1.2226	1.3586
19600	.0348	.0390	.2311	.2620	.3340	.2708	1.4522	1.2509	1.3841
20000			.2393	.2715	.3080	.2728	1.4765	1.2801	1.4265
20400			.2426	.2798	.3306	.2739	1.5078	1.2649	1.4517
20800	.0371	.0317	.2375	.2762	.3371	.2687	1.5457	1.2871	1.4811
21200	.0389	.0366	.2555	.2917	.3363	.2617	1.5961	1.3025	1.5309
21400	.03750	.0378	.2576	.2829	.3463	.2728	1.6022	1.3123	1.5463
21600			.2580	.2932	.3475	.2781	1.6280	1.3320	1.5662
21800	.0385	.0416	.2694	.2942	.3452	.2810	1.6356	1.3359	1.5782
22000			.2717	.3035	.3537	.2864	1.6578	1.3421	1.5978
22400			.2768	.3120	.3616	.2858	1.7017	1.3616	1.6304
22800			.2806	.3198	.3672	.2855	1.7247	1.3787	1.6611
23200			.2913	.3280	.3730	.2904	1.7574	1.3953	1.6995
23600	.0389	.0429	.2982	.3372	.3751	.2907	1.8027	1.4163	1.7291
24000			.3065	.3444	.3828	.2929	1.8508	1.4286	1.7798
24400			.3118	.3593	.3915	.2931	1.8853	1.4442	1.8112
24800			.3187	.3634	.3923	.2988	1.9517	1.4633	1.8579
25200			.3259	.3717	.4032	.2989		1.4759	1.8888
25600			.3298	.3774	.4073	.2989		1.4946	1.9128
26000	.0420	.0430	.3408	.3332	.4178	.2999		1.4997	
26400			.3437	.3956	.4220	.3000		1.5170	
26800			.3503	.3985	.4387	.3012		1.5300	
27000	.0430	.0437	.3539	.4085	.4321	.3039		1.5358	
27200			.3632	.3657	.4331	.3034		1.5614	
27400			.3668	.4234	.4395	.3087		1.5662	
27600			.3687	.4235	.4513	.3074		1.5678	
27800			.3696	.4296	.4477	.3090		1.5838	
28000			.3740	.4329	.4533	.3124		1.5850	
28400	.0442	.0470	.3771	.4382	.4535	.3120		1.5987	
28800			.3835	.4567	.4712	.3135		1.6175	
29000			.3922	.4656	.4832	.3187		1.6307	
29400			.3980	.4697	.4973	.3128		1.6470	

Table 59. Crack Propagation Data From Side 1 - AFCG-5 (Continued)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	(1)	(2)	(3)	(4)	(5)	6	7	8	9
29800	.0458	.0538	.4081	.4861	.4995	.3183		1.6684	
30200			.4162	.4895	.5021	.3200		1.6739	
30600			.4282	.4997	.5201	.3236		1.6863	
31000			.4352	.5156	.5268	.3243		1.7[illegible]0	
31400			.4448	.5290	.5393	.3282		1.7[illegible]	
32000			.4603	.5487	.5573	.3282		1.7473	
32600			.4708	.5677	.5794	.3303		1.7780	
33200	.0488	.0627	.4842	.5879	.5940	.3335		1.8031	
33800			.5006	.6158	.6165	.3356		1.8246	
34400			.5135	.6321	.6380	.3376		1.8400	
35000			.5341	.6576	.6626	.3386		1.8796	
35400			.5417	.6720	.6810	.3405		1.9004	
35800	.0523	.0662	.5522	.6850	.7046	.3498		1.9155	
36200			.5696	.7091	.7178	.3482		1.9424	
36600			.5804	.7185	.7337	.3512		1.9672	
37000			.5902	.7461	.7523	.3522			
37400			.6016	.7577	.7693	.3523			
37800			.6181	.7742	.7918	.3501			
38200			.6255	.7991	.8109	.3507			
38600			.6337	.8120	.8342	.3529			
39000	.0687	.0821	.6483		.8498	.3515			
39400			.6589		.8712	.3522			
39800			.6713		.9015	.3518			
40,200			.6837		.9195	.3631			
40600			.6933		.9515	.3698			
41000	.0687	.0886	.7079		.9760	.3689			
41400			.7173		1.0093	.3710			
42000			.7347			.3783			
42400			.7598			.3788			
42800			.7760			.3827			
43200	.0702	.1028	.7958			.3827			
46200	.0816	.1222				.4019			
49200	.0913	.1380				.4221			
52800	.1143	.1720				.4436			
55200	.1317	.1986				.4658			

Table 59. Crack Propagation Data From Side 1 - AFCG-5 (Concluded)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	(1)	(2)	(3)	(4)	(5)	6	7	8	9
57200	.1473	.2178				.4307			
58800	.1593	.2211				.4873			
59800	.1659	.2486				.5752			
60800	.1735	.2673				.4999			
61800	.1835	.2700				.5062			
62800	.1893	.2839				.5069			
63800	.2005	.2987				.5185			

Table 60. Crack Propagation Data From Side 2 - AFCG-5

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
0			.0260	.0055	.2077	.2145	.1724	.5037	.2177
600				.0085		.2093	.2428	.5225	.2412
1400			.0385	.0084		.2092	.2682	.5483	.2728
2200			.0527	.0610		.2084	.2745	.5773	.3125
3200			.05806	.0098		.2084	.3320	.6150	.3474
3600			.0618	.0100		.2199	.3474	.6289	.3620
4000			.0652	.0148		.2222	.4026	.6396	.3764
4600			.0688	.0196		.2274	.3893	.6596	.4012
5200			.0755	.0255		.2261	.4013	.6870	.4227
5800			.0736	.0278	.2066	.2265	.4332	.6953	.4527
6200			.0753	.0286	.2081	.2311	.4477	.7035	.4673
6800			.0784	.0354	.2085	.2327	.4659	.7197	.4915
7200			.0823	.0371	.2138	.2290	.4855	.7343	.5113
7600			.0870	.0430	.2173	.2313	.5036	.7515	.5318
8000			.1000	.0433	.2185	.2335	.5227	.7650	.5478
8400			.1042	.0466	.2205	.2330	.5416	.7826	.5721
8300			.1063	.0540	.2230	.2335	.5640	.8015	.5949
10000			.1183	.0664	.2269	.2411	.6303	.8532	.6187
10800			.1215	.0893	.2233	.2473	.6743	.8800	.7148
11200			.1255	.0961	.2391	.2448	.6921	.9037	.7433
11600			.1298	.0963	.2403	.2460	.7120	.9157	.7735
12000			.1378	.0973	.2423	.2457	.7311	.9328	.7928
12400			.1397	.1083	.2403	.2479	.7528	.9468	.8184
12800			.1379	.1064	.2469	.2468	.7806	.9608	.8435
13200			.1465	.1126	.2434	.2522	.8068	.9787	.8750
13800			.1547	.1261	.2480	.2520	.8251	.9910	.9023
14200			.1600	.1341	.2530	.2510	.8516	1.0067	.9289
14400			.1655	.1383	.2530	.2514	.8644	1.0135	.9364
14800			.1659	.1386	.2545	.2515	.8736	1.0273	.9602
15200			.1699	.1408	.2548	.2514	.9089	1.0438	.9823
15600			.1766	.1466	.2556	.2515	.9282	1.0617	1.0081
16000			.1784	.1578	.2620	.2601	.9440	1.0793	1.0360
16400			.1863	.1673	.2695	.2650	.9715	1.0971	1.0580
16800			.1918	.1715	.2759	.2687	.9968	1.1089	1.0838
17200			.1968	.1796	.2785	.2696	1.0217	1.1309	1.1085

Table 60. Crack Propagation Data From Side 2 - AFCG-5 (Continued)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	(1)	(2)	(3)	(4)	(5)	[6]	[7]	[8]	[9]
17600			.1981	.1785	.2801	.2664	1.0563	1.1455	1.1335
18000			.2023	.1890	.2829	.2665	1.0700	1.1585	1.1656
18400			.2055	.1953	.2870	.2683	1.1010	1.1785	1.1845
18800			.2110	.2025	.2950	.2690	1.1280	1.1910	1.2050
19200			.2173	.2082	.3052	.2738	1.1580	1.2093	1.2323
19600			.2212	.2200	.3106	.2788	1.1856	1.2273	1.2557
20000			.2325	.2321	.3189	.2752	1.2198	1.2418	1.2851
20400			.2348	.2340	.3165	.2785	1.2398	1.2621	1.3038
20800			.2416	.2468	.3213	.2765	1.2678	1.2808	1.3370
21200			.2503	.2501	.3336	.2823	1.2912	1.2928	1.3637
21400			.2487	.3040	.3338	.2832	1.3012	1.2989	1.3795
21600			.2533	.2628	.3306	.2840	1.3183	1.3109	1.4005
21800			.2611	.2853	.3367	.2795	1.3317	1.3195	1.4127
22000			.2616	.2655	.3379	.2807	1.3508	1.3300	1.4199
22200			.2667	.2793	.3452	.2809	1.3716	1.3405	1.4456
22300			.2744	.2859	.3507	.2867	1.3987	1.3527	1.4804
23200			.2811	.2983	.3546	.2844	1.4278	1.3705	1.5085
23600			.2886	.3035	.3628	.2849	1.4535	1.3921	1.5476
24000			.2944	.3168	.3678	.2844	1.4752	1.4075	1.5679
24400			.3003	.3188	.3711	.2875	1.4948	1.4185	1.5926
24800			.3075	.3298	.3769	.2894	1.5195	1.4327	1.6285
25200			.3125	.3375	.3827	.2902	1.5460	1.4538	1.6604
25600			.3190	.3448	.3875	.2892	1.5701	1.4705	1.6913
26000			.3252	.3563	.3980	.2931	1.5948	1.4860	1.7189
26400			.3313	.3684	.4075	.2919	1.6224	1.4990	1.7535
26800			.3379	.3758	.4154	.2973	1.6519	1.5207	1.7847
27000			.3385	.3913	.4206	.3049	1.6329	1.5334	1.8082
27200			.3418	.3870	.4282	.2993	1.6843	1.5357	1.8229
27400			.3450	.3910	.4304	.2978	1.6977	1.5452	1.8400
27600			.3450	.3950	.4310	.2983	1.7165	1.5520	1.8541
27800			.3516	.3999	.4319	.2989	1.7308	1.5667	1.8771
28000			.3615	.4068	.4417	.3009	1.7465	1.5693	1.9085
28400			.3608	.4170	.4459	.3020	1.7878	1.5916	1.9450
28600			.3681	.4227	.4520	.3031	1.7971	1.6038	
29000			.3778	.4347	.4638	.3101	1.8365	1.6119	

Table 60. Crack Propagation Data From Side 2 - AFCG-5 (Concluded)

TOTAL CYCLES	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 9								
	①	②	③	④	⑤	6	7	8	9
31000			.4238	.4970	.5065	.3115		1.6960	
31400			.4300	.5130	.519	.3148		1.7183	
32000			.4251	.5270	.5292	.3167		1.7423	
32600			.4627	.5438	.5516	.3192		1.7671	
33200			.4729	.5689	.5670	.3209		1.7937	
33800			.4865	.5966	.6062	.3246		1.8179	
34400			.5017	.6188	.6107	.3275		1.8353	
35000			.5112	.6373	.6329	.3299		1.8520	
35400			.5278	.6570	.6[illegible]8	.3329		1.9077	
35900			.5413	.6691	.6[illegible]	.3344		1.934	
36200			.5498	.6859	.6[illegible]	.3[illegible]		1.[illegible]	
36600			.5600	.7095	.[illegible]	.3370			
37000			.5755	.7207	.[illegible]	.3[illegible]			
37400			.5865	.7431	.[illegible]	.3[illegible]			
37800			.5978	.7663	.[illegible]	.3[illegible]			
38200			.6200	.7768	.[illegible]	.3[illegible]			
38600			.6177	.7974	.7856	.3411			
39000			.6302		.8056	.3424			
39400			.6813		.8276	.3468			
39800			.6556		.8512	.3504			
40200			.6660		.8738	.3527			
40600			.6785		.8[illegible]	.3531			
41000			.6938		.9[illegible]	.3549			
41400			.7080		.9574	.3578			
42000			.7255			.3615			
42400			.7416			.3641			
42800			.7540			.3627			
43200			.7710			.3631			
46200						.3825			
49200						.3967			
52400						.4083			
55300						.4185			
57200						.4260			
58800						.4361			
59800						.1398			

Table 61. Crack Propagation Data From Side 1 - AFCG-6

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
0							.1994	.4990	.1971	—
20	.0200	.0047	.0348	.0362	.2126	.2040	.2210	.5030	.2028	.2228
38	.0175	.0050	.0330	.0361	.2232	.1959	.2212	.5186	.2092	.2293
50	.0186	.0055	.0325	.0387	.2203	.2007	.2289	.5252	.2223	.2338
70	.0163	.0038	.0351	.0363	.2230	.2047	.2335	.5250	.2277	.2415
85	.0202	.0048	.0383	.0334	.2271	.2079	.2432	.5313	.2279	.2510
100	.0192	.0064	.0407	.0362	.2216	.2102	.2432	.5392	.2354	.2523
120	.0198	.0061	.0390	.0376	.2152	.2053	.2466	.5424	.2402	.2618
169		.0065	.0416	.0346		.2083	.2631	.5527	.2583	.2737
221							.2774	.5658	.2620	.2938
278							.2916	.5815	.2769	.3138
339	.0264	.0075	.0508	.0422	.2220	.2084	.3088	.5898	.2904	.3324
400							.3264	.6076	.3048	.3545
451							.3345	.6165	.3153	.3702
500							.3527	.6202	.3291	.3898
550	.0266	.0053	.0570	.0469	.2335	.2125	.3682	.6292	.3394	.4012
601	.0293	.0069	.0593	.0471	.2259	.2087	.3732	.6429	.3562	.4120
651	.0301	.0056	.0665	.0485	.2294	.2122	.3904	.6515	.3673	.4397
700	.0268		.0649	.0531	.2303	.2146	.4048	.6581	.3806	.4633
750							.4197	.6772	.3952	.4771
800							.4361	.6866	.4072	.4984
855							.4515	.6968	.4186	.5129
905	.0280	.0075	.0780	.0570	.2413	.2195	.4665	.7051	.4354	.5308
962							.4830	.7135	.4484	.5472
999							.4928	.7209	.4581	.5617
1040							.5013	.7267	.4704	.5754
1074	.0285	.0077	.0865	.0629	.2461	.2225	.5125	.7339	.4789	.5913
1104							.5198	.7369	.4920	.6018
1136							.5271	.7446	.4938	.6099
1179							.5361	.7505	.5112	.6306
1215	.0316	.0069	.0925	.0676	.2486	.2231	.5490	.7585	.5151	.6401
1245							.5608	.7623	.5240	.6497
1276							.6184	.7696	.5300	.6630
1305	.0340	.0084	.0977	.0723	.2480	.2229	.5776	.7755	.5346	.6702

Table 61. Crack Propagation Data From Side 1 - AFCG-6 (Continued)

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
1335							.5617	.7525	.5265	.6900
1370							.6002	.7957	.5641	.7051
1402			.0992	.0779		.2247	.6065	.7962	.5724	.7037
1432					.2617		.6193	.8043	.5737	.7235
1461	.0357	.0056					.6292	.8094	.5807	.7253
1510			.1095	.0812	.2637	.2312	.6468	.8215	.5982	.7436
1553					.2660		.6584	.8262	.6072	.7643
1584							.6669	.8302	.6118	.7745
1624							.6818	.8375	.6259	.7805
1655							.6921	.8443	.6350	.7972
1685							.7011	.8484	.6431	.8078
1709	.0424	.0070	.1251	.0822	.2675	.2367	.7063	.8530	.6451	.8176
1737							.7238	.8618	.6584	.8305
1757							.7392	.8638	.6649	.8382
1777							.7304	.8737	.6648	.8432
1797							.7334	.8767	.6848	.8516
1817	.0426	.0072	.1285	.0915	.2743	.2386	.7476	.8799	.6783	.8530
1837							.7491	.8803	.6792	.8584
1857							.7499	.8793	.6844	.8708
1877							.7561	.8814	.6886	.8814
1905							.7642	.8834	.6967	.8865
1925	.0455	.0076	.1341	.0992	.2807	.2415	.7783	.8876	.7045	.8902
1946							.7799	.8868	.7060	.9024
1981							.7842	.8929	.7142	.9185
2021			.1385	.1050		.2432	.7986	.9023	.7254	.9336
2070							.8188	.9106	.7396	.9566
2120	.0482	.0064			.2962		.8266	.9156	.7476	.9711
2174							.8420	.9235	.7460	.9889
2224							.8545	.9288	.7741	1.0012
2265							.8719	.9389	.7836	1.0203
2307							.8854	.9452	.7994	1.0365
2352	.0512	.0074	.1507	.1160	.3017	.2530	.8970	.9475	.8012	1.0508
2405							.9168	.9612	.8218	1.0702
2453							.9313	.9660	.8358	1.0806

Table 61. Crack Propagation Data From Side 1 - AFCG-6 (Continued)

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
2503							.9456	.9731	.8493	1.1016
2563	.0561	.0133	.1583	.1259	.3112	.2554	.9668	.9809	.8593	1.1181
2607							.9807	.9939	.8761	1.1373
2651							.9946	1.0021	.8985	1.1575
2690							1.0081	1.0091	.8953	1.1724
2720	.0579	.0135	.1636	.1325	.3140	.2555	1.0121	1.0154	.9036	1.1854
2770			.1672	.1407			1.0425	1.0193	.9186	1.2071
2820							1.0419	1.0369	.9289	1.2303
2862	.0635	.0170	.1720	.1456	.3270	.2623	1.0552	1.0350	.9398	1.2486
2911							1.0671	1.0413	.9594	1.2701
2961							1.0800	1.0507	.9702	1.2782
3010							1.0909	1.0574	.9830	1.2960
3058	.0693	.0192	.1833	.1550	.3281	.2635	1.1083	1.0687	.9963	1.3104
3105							1.1221	1.0735	1.0055	1.3320
3139							1.1302	1.0771	1.0144	1.3423
3174							1.1405	1.0854	1.0239	1.3566
3226	.0708	.0216	.1951	.1660	.3435	.2672	1.1584	1.0933	1.0362	1.3764
3276							1.1753	1.1046	1.0500	1.3855
3330							1.1902	1.1140	1.0623	1.4041
3381							1.2023	1.1189	1.0680	1.4199
3436	.0772	.0201	.2078	.1730	.3535	.2765	1.2213	1.1263	1.0806	1.4378
3490							1.2358	1.1382	1.0938	1.4573
3545							1.2509	1.1516	1.1039	1.4729
3605							1.2740	1.1584	1.1197	1.5030
3655							1.2870	1.1651	1.1361	1.4648
3706	.0831	.0245	.2268	.1887	.3716	.2791	1.3096	1.1652	1.1440	1.5403
3757							1.3185	1.1874	1.1603	1.5567
3807							1.3370	1.2002	1.1682	1.5634
3859							1.3553	1.2043	1.2013	1.5952
3907	.0878	.0247	.2435	.2047	.3745	.2842	1.3784	1.2154	1.2041	1.6135
3957							1.3930	1.2237	1.2203	1.6287
4011							1.4139	1.2410	1.2321	1.6584
4061							1.4286	1.2457	1.2373	1.6910
4111	.0821	.0255	.2673	.2203	.3891	.2920	1.4570	1.2595	1.2636	1.7067

Table 61. Crack Propagation Data From Side 1 - AFCG-6 (Continued)

TOTAL FLIGHTS	CRACK PROPAGATION DATA — FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	(1)	(2)	(3)	(4)	(5)	6	7	8	9	10
4161							1.4801	1.2610	1.2823	1.7391
4211							1.4991	1.2737	1.2968	1.7535
4262							1.5065	1.2823	1.3036	1.7801
4311	.1028	.0268	.3364	.2334	.4042	.3435	1.5423	1.2806	1.3281	1.7977
4365							1.5467	1.2996	1.3440	1.8424
4413							1.5664	1.3051	1.3480	1.9083
4466							1.5881	1.3082	1.4755	
4518	.1086	.0283	.3028	.2368	.4181	.2991	1.6060	1.3162	1.3815	
4573							1.6375	1.2810	1.3944	
4625							1.6578	1.3336	1.4119	
4675	.1132	.0326	.3117	.2560	.4337	.3018	1.6850	1.3487	1.4193	
4727							1.7020	1.3537	1.4394	
4830							1.7416	1.3707	1.4767	
4890							1.7796	1.3813	1.4946	
4943	.1263	.0332	.3359	.2758	.4607	.3070	1.7993	1.3899	1.5094	
5043	.1280	.0360	.3431	.2818	.4676	.3086		1.4054	1.5396	
5143								1.4190	1.5684	
5245								1.4416	1.6047	
5345	.1400	.0377	.3692	.3011	.4980			1.4614	1.5819	
5447								1.4736	1.6762	
5548								1.4919	1.7212	
5645	.1510	.0303	.3986	.3252	.5471	.3238		1.5035	1.7450	
5732	.1559	.0386	.4011	.3356	.5364	.3243		1.5272	1.7592	
5833	.1617	.0406	.4124	.3412	.5439	.3247		1.5349		
5933	.1663	.0415	.4189	.3528	.5542	.3269		1.5506		
6057	.1681	.0428	.4312	.3633	.5746	.3319		1.5857		
6175	.1779	.0436	.4436	.3772	.5895	.3339		1.6120		
6325	.1851	.0457	.4562	.3926	.6149	.3374		1.6470		
6475	.1918	.0471	.4675	.4077	.6391	.3402		1.6787		
6676	.1967	.0474	.4878	.4263	.6621	.3476		1.7196		
6750	.2048	.0492	.4943	.4365	.6695	.3497		1.7385		
6867	.2107	.0533	.5045	.4558	.7471	.3523		1.7694		
6997	.2184	.0547	.5197	.4700	.7221	.3546		1.8005		
7150	.2372	.0611	.5423	.4899	.7456	.3619		1.8369		

Table 61. Crack Propagation Data From Side 1 - AFCG-6 (Concluded)

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
7302	.2324	.0628	.5616	.5128	.7754	.3656		1.8857		
7425	.2401	.0658	.5797	.5270	.8062	.3689		1.9544		
7675	.2437	.0663	.7034	.5514	.8337	.3512				
7737	.2763	.0703	.6252	.5727	.8766	.3723				
7876	.2616	.0767	.6523	.5921	.9030	.3711				
7981	.2690	.0734	.6740	.6074	.9310	.3740				
8083	.2761	.0783	.6980	.6228	.9639	.3740				
8213	.2869	.0807	.7198	.6446	1.0074	.3845				
8363	.2949	.0804	.7446	.6704		.3858				
8503	.3043	.0805	.7748	.6966		.3906				
8604	.3107	.0884	.7932	.7135		.3937				
8757	.3250	.0861		.7320		.3962				
8862	.3284	.0946		.7548		.3904				
8963	.3003	.0960		.7702		.4054				
9059	.3436	.0962		.7983		.4007				
9075	.3368	.0997		.8035						
9111	.3399	——		.8093						
9243	.3462	.1020		.8201		.4087				
9383	.3637	.1099				.4156				
9608	.3826	.1171				——				
9839	.3860	.1253				.4078				
10039	.4020	.1283				.4104				
10243	.4411	.1411				.4338				
10316	.4451	.1375	——	——	——	.4338	——	——	——	——

Table 62. Crack Propagation Data From Side 2 - AFCG-6

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
0	—	—	—	—	.2049	—	—	—	—	—
20	|	|	.0289	.0240	—	.2107	.2467	.5912	.2140	.2361
38	|	|	.0268	.0225	|	.2193	.2615	.5536	.2244	.2450
50	|	|	.0184	.0215	|	.2135	.2694	.5606	.2304	.2550
70	|	|	.0231	.0226	|	.2176	.2802	.5685	.2339	.2645
85	|	|	.0222	.0214	|	.2189	.2907	.5701	.2406	.2690
100	|	|	.0241	.0254	|	.2189	.2971	.5766	.2458	.2788
120	|	|	.0235	.0227	|	.2196	.3071	.5860	.2472	.2823
169	|	|	.0244	.0227	|	.2219	.3252	.5970	.2557	.3111
221	|	|	|	|	—	.2175	.3451	.6125	.2678	.3183
278	|	|	|	|	.2085	.2251	.3671	.6258	.2813	.3370
339	|	|	.0327	.0268	.2075	.2278	.3875	.6406	.3004	.3523
400	|	|	|	|	|	|	.4125	.6538	.3166	.3746
451	|	|	|	|	|	|	.4328	.6644	.3338	.3909
500	|	|	|	|	|	|	.4504	.6745	.3410	.4032
550	|	|	.0338	.0305	.2142	.2317	.4756	.6853	.3527	.4241
601	|	|	.0344	.0324	.2140	.2377	.5005	.6973	.3643	.4435
651	|	|	.0348	.0351	.2167	.2333	.5229	.7091	.3723	.4511
700	|	|	.0358	.0355	.2181	.2355	.5401	.7203	.3804	.4660
750	|	|	|	|	|	|	.5719	.7317	.3966	.4830
800	|	|	|	|	|	|	.5977	.7127	.4122	.5032
855	|	|	|	|	|	|	.6238	.7549	.4287	.5224
905	|	|	.0412	.0411	.2252	.2402	.6496	.7644	.4449	.5427
962	|	|	|	|	|	|	.6860	.7751	.4522	.5689
999	|	|	|	|	|	|	.7079	.7824	.4568	.5783
1040	|	|	|	|	|	|	.7292	.7977	.4668	.5938
1074	|	|	.0448	.0494	.2292	.2417	.7573	.8105	.4759	.6022
1104	|	|	|	|	|	|	.7833	.8212	.4894	.6147
1135	|	|	|	|	|	|	.7968	.8199	.5015	.6254
1179	|	|	|	|	|	|	.8247	.8385	.5105	.6454
1215	|	|	.0485	.0516	.2394	.2492	.8511	.8505	.5160	.6580
1245	|	|	|	|	|	|	.8762	.8601	.5226	.6673
1276	|	|	|	|	|	|	.8967	.8676	.5305	.6819
1305	|	|	|	|	|	|	.9202		.5347	.6949

Table 62. Crack Propagation Data From Side 2 - AFCG-6 (Continued)

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
1335			.0510	.0518	.2394	.2450	.9445	.8815	.5439	.7039
1370							.9683	.8925	.5527	.7181
1402							.9930	.9049	.5623	.7310
1432							1.0190	.9129	.5708	.7454
1461			.0549	.0606	.2454	.2460	1.0423	.9230	.5800	.7560
1510							1.0818	.9385	.5938	.7779
1553					.2513		1.1160	.9573	.6011	.7974
1584							1.1479	.9727	.6107	.8125
1624			.0593	.0727		.2484	1.1839	.9832	.6228	.8274
1655							1.2141	.9904	.6275	.8502
1685							1.2477	1.0010	.6339	.8602
1709			.0665	.0768	.2570	.2487	1.2736	1.0095	.6456	.8734
1737							1.2961	1.0194	.6524	.8859
1757							1.3181	1.0512	.6593	.8954
1777							1.3378	1.0317	.6614	.9099
1797							1.3559	1.0399	.6665	.9171
1817			.0768	.0824	.2610	.2528	1.3816	1.0406	.6708	.9270
1837							1.3970	1.0408	.6855	.9417
1857							1.4104	1.0566	.6839	.9497
1877							1.4606	1.0655	.6930	.9677
1905							1.4605	1.0738	.6980	.9738
1925			.0777	.0815	.2652	.2552	1.4829	1.0832	.6999	.9829
1946							1.5025	1.0894	.6996	.9869
1981							1.5404	1.1029	.7030	1.0084
2021							1.5731	1.1167	.7163	1.0271
2070								1.1315	.7279	1.0567
2120			.0825	.1405	.2728	.2559		1.1486	.7421	1.0846
2174								1.1746	.7574	1.1111
2224								1.1920	.7668	1.1422
2265								1.2069	.7775	1.1661
2307								1.2229	.7882	1.1906
2351			.0931	.1050	.2810	.2612		1.2426	.8004	1.2162
2405								1.2662	.8133	1.2496
2453								1.2868	.8244	1.2775

Table 62. Crack Propagation Data From Side 2 - AFCG-6 (Continued)

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
2505								1.3058	.8337	1.3102
2563			.1065	.1167	.2919	.2632		1.3279	.8537	1.3517
2607								1.3451	.8612	1.3722
2651								1.3633	.8744	1.4071
2690								1.3738	.8868	1.4333
2720			.1125	.1245	.2977	.2646		1.3847	.8944	1.4515
2770								1.4035	.8996	1.4895
2820								1.4207	.9110	1.5300
2862								1.4354	.9235	1.5619
2911								1.4568	.9350	1.5981
2961			.1201	.1296	.3040	.2667		1.4761		1.6435
3010								1.4945	.9659	1.6925
3058			.1265	.1400	.3113	.2693		1.5199	.9821	1.7452
3105								1.5416	1.0026	1.7944
3139								1.5554	1.0163	1.8336
3174								1.5723	1.0299	1.8586
3226			.1363	.1490	.3160	.2716		1.5918	1.0483	
3276								1.6138	1.0764	
3330								1.6355	1.0999	
3381								1.6514	1.1323	
3436			.1528	.1578	.3337	.2757		1.6747	1.1694	
3490								1.7010	1.1945	
3545								1.7250	1.2228	
3605								1.7438	1.2666	
3655								1.7640	1.2811	
3706			.1639	.1707	.3396	.2770		1.7773	1.3104	
3757								1.7984	1.3394	
3807								1.8182	1.3749	
3859								1.8436	1.4127	
3907			.1808	.1858	.3533	.2834		1.8685	1.4472	
3957								1.8894	1.4921	
4011								1.9292	1.5354	
4061								1.9806	1.5942	
4111			.1973	.2050	.3672	.2836				

Table 62. Crack Propagation Data From Side 2 - AFCG-6 (Continued)

TOTAL FLIGHTS	CRACK PROPAGATION DATA FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
4161										
4311			.2132	.2062	.3812	.3049				
4363					.3825	.3001				
4518			.2285	.2225	.4172	.2990				
4675			.2429	.2315	.4084	.2983				
4830			.2625	.2394	.4257	.3003				
4943			.2734	.2527	.4347	.2962				
5043			.2795	.2574	.4417	.3020				
5143			.2904	.2638	.4505	.3000				
5245			.2997	.2733	.4578					
5345			.3101	.2754	.4705	.3063				
5645			.3421	.2997	.5493	.3078				
5732			.3622	.3062	.5076	.3065				
5833			.3630	.3186	.5205	.3095				
5933			.3696	.3287	.5293	.3124				
6067			.3830	.3389	.5483	.3138				
6175			.3925	.3490	.5641	.3123				
6325			.4117	.3667	.5830	.3164				
6475			.4247	.3824	.6069	.3169				
6668			.4426	.4008	.6353	.3190				
6750			.4521	.4120	.6491	.3205				
6867			.4658	.4249	.6677	.3200				
6997			.4832	.4405	.6938	.3272				
7150			.5014	.4625	.7250	.3266				
7302			.5200	.4858	.7537	.3288				
7425			.5359	.4995	.7829	.3303				
7575			.5550	.5161	.8186	.3329				
7736			.5764	.5421	.8538	.3358				
7876			.5988	.5591	.8932	.3405				
7881			.6247	.5789	.9200	.3405				
8083			.6386	.5912	.9498	.3414				
8213			.6550	.6112	.9816	.3435				
8363			.6831	.6405		.3474				
8503			.7124	.6646		.3490				

Table 62. Crack Propagation Data From Side 2 - AFCG-6 (Concluded)

TOTAL FLIGHTS	CRACK PROPAGATION DATA									
	FLAW LENGTH (INCHES) AT FLAW LOCATIONS 1 THRU 10									
	①	②	③	④	⑤	6	7	8	9	10
8604	.1790	|	.7375	.6846	|	.3510	|	|	|	|
8757	.1942	|	|	.7084	|	.3545	|	|	|	|
8862	.3027	|	|	.7299	|	.3565	|	|	|	|
8963	.2156	|	|	.7490	|	.3639	|	|	|	|
9059	.2270	|	|	.7721	|	.3607	|	|	|	|
9075	.2250	|	|	.7737	|	|	|	|	|	|
9111	.2289	|	|	.7844	|	|	|	|	|	|
9243	.2322	|	|	.7896	|	|	|	|	|	|
9383	.2708	|	|	|	|	.3690	|	|	|	|
9608	.2859	|	|	|	|	.3714	|	|	|	|
9839	.3117	|	|	|	|	.3766	|	|	|	|
10039	.3320	|	|	|	|	.3787	|	|	|	|
10243	.3531	|	|	|	|	|	|	|	|	|
10316	.3668	—	—	—	—	.3825	—	—	—	—

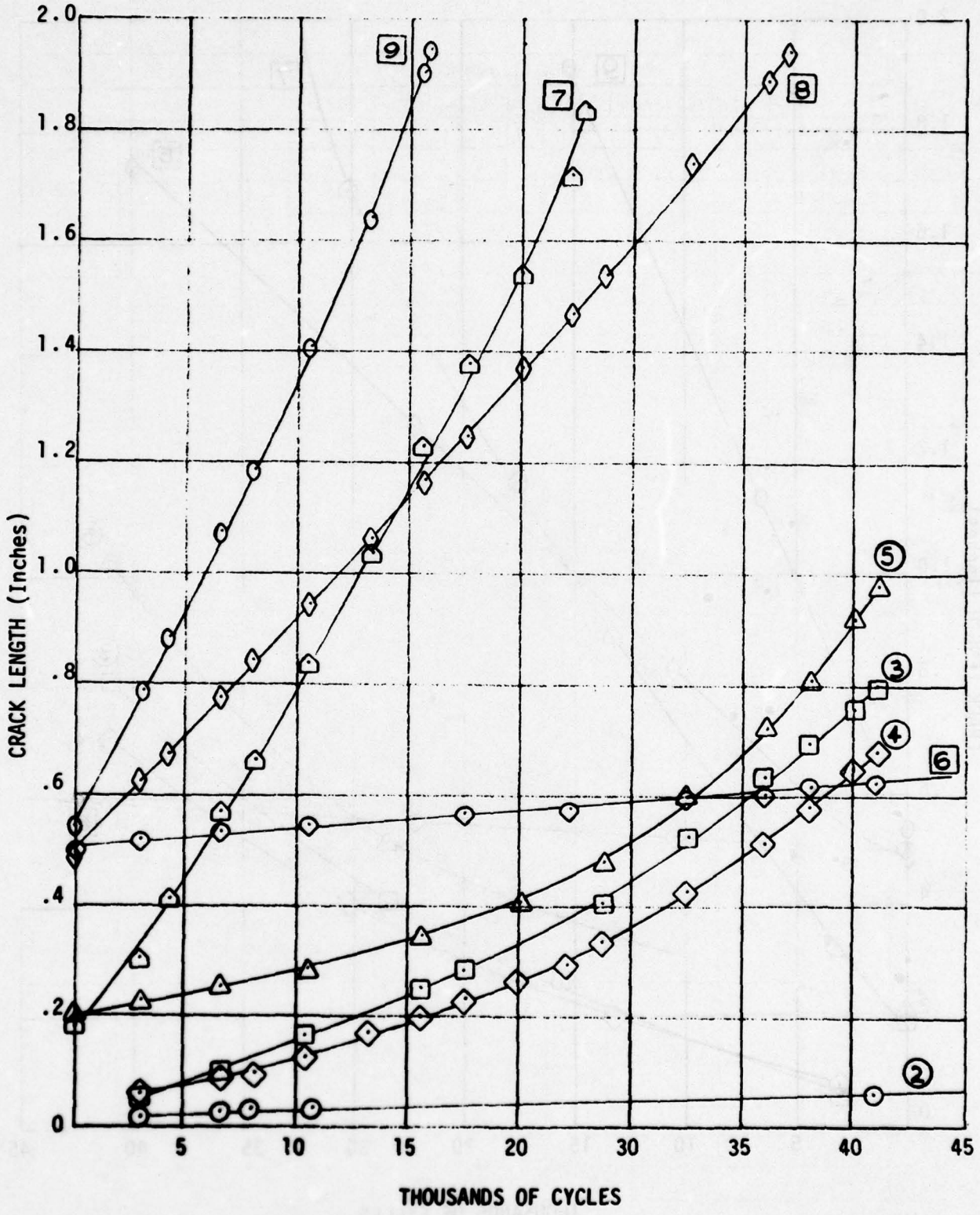

Figure 33. Crack Propagation Plot of Crack Length Vs Cycles - AFCG-1 Side 1

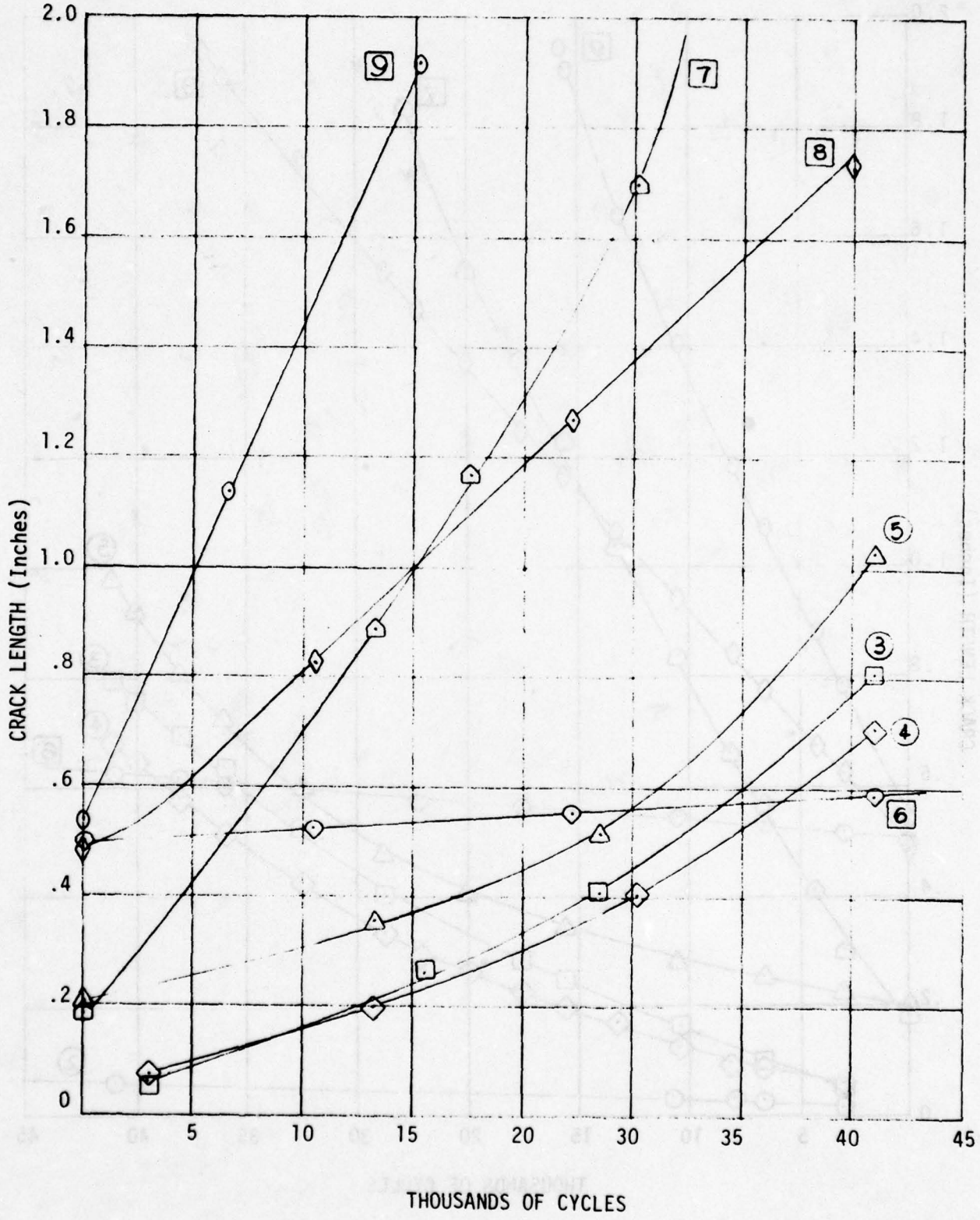

Figure 34. Crack Propagation Plot of Crack Length Vs Cycles - AFCG-1 Side 2

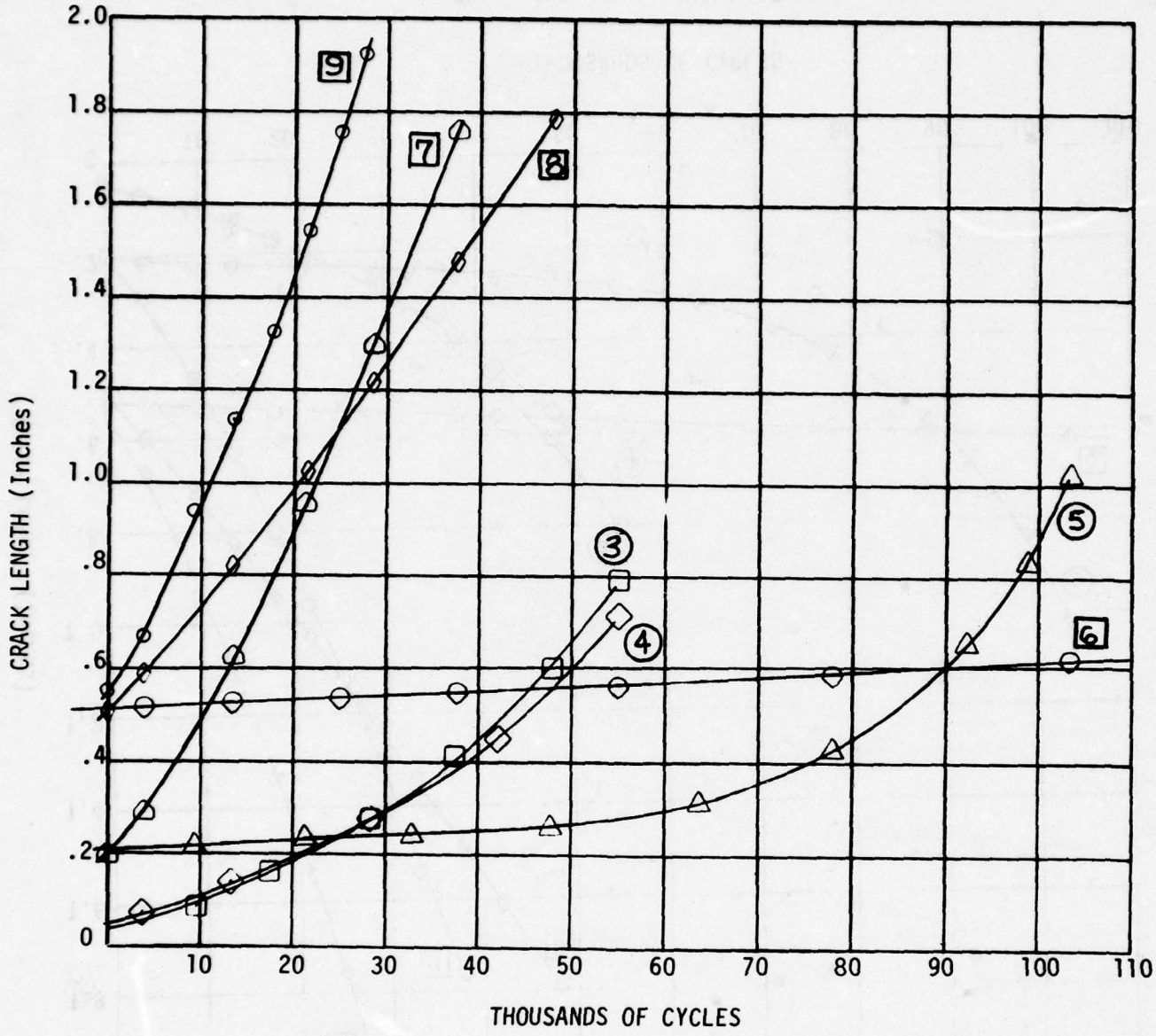

Figure 35. Crack Propagation Plot of Crack Length Vs Cycles - AFCG-2 Side 1

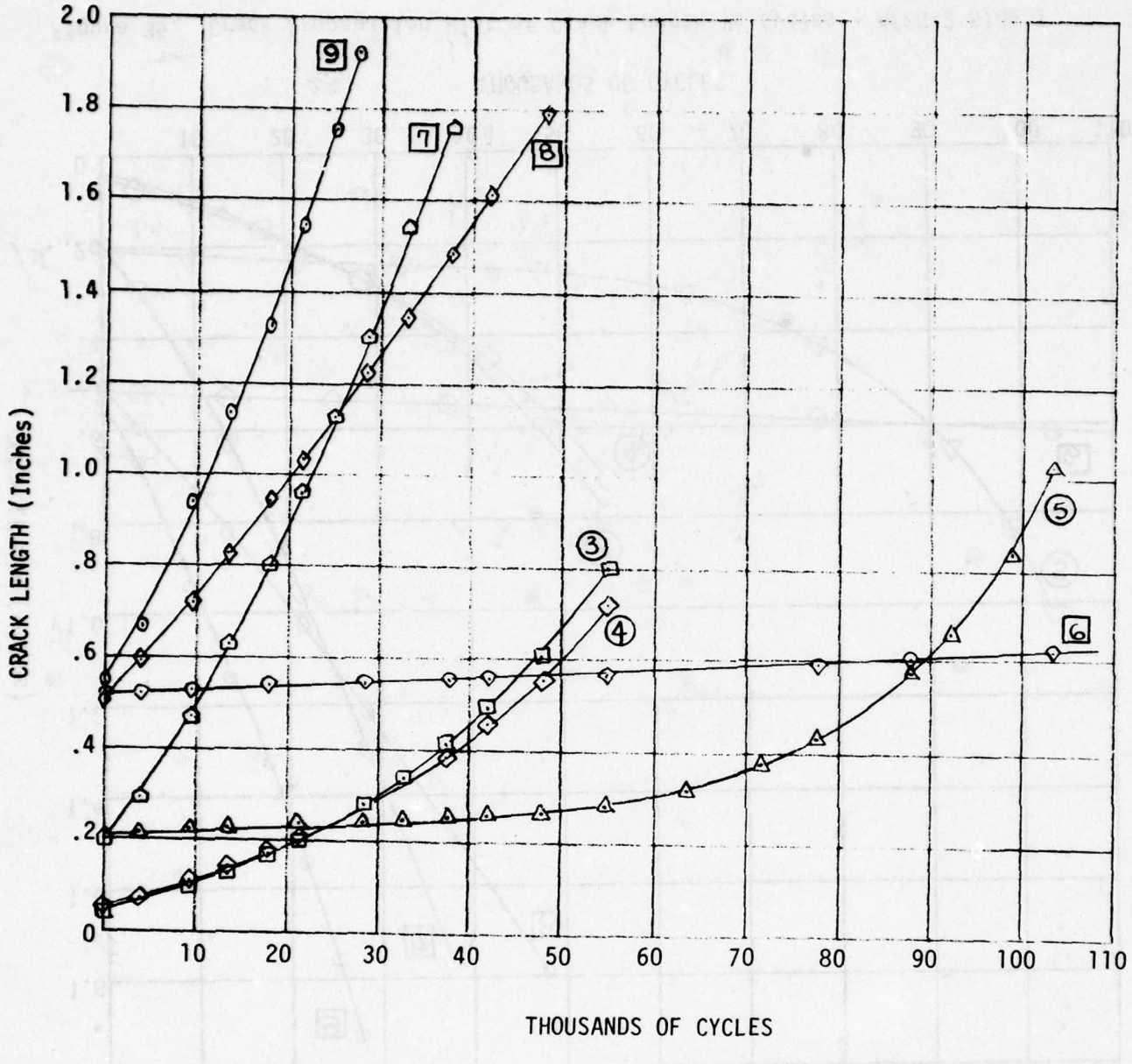

Figure 36. Crack Propagation Plot of Crack Length Vs Cycles - AFCG-2 Side 2

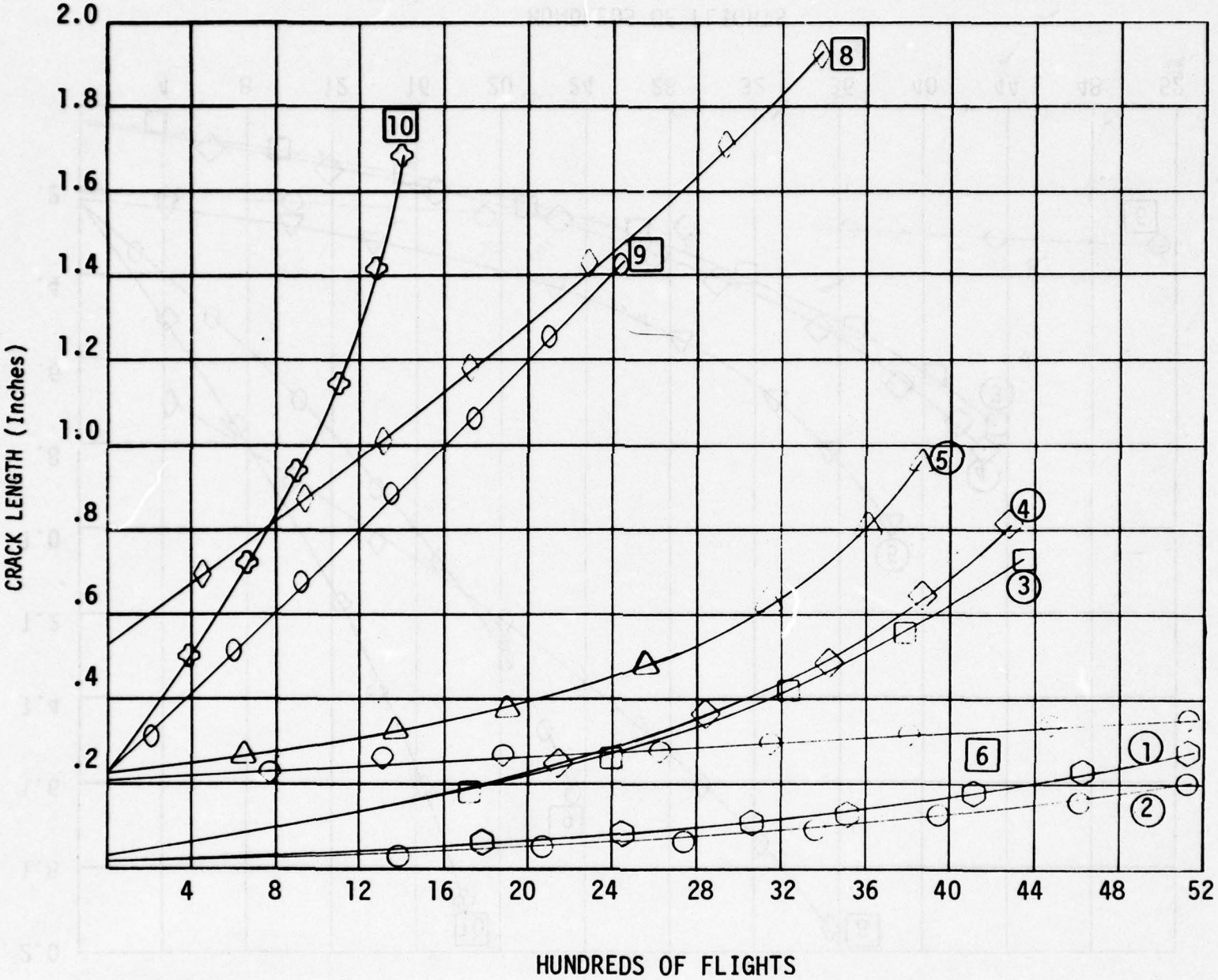

Figure 37. Crack Propagation Plot of Crack Length Vs Flights - AFCG-3 Side 1

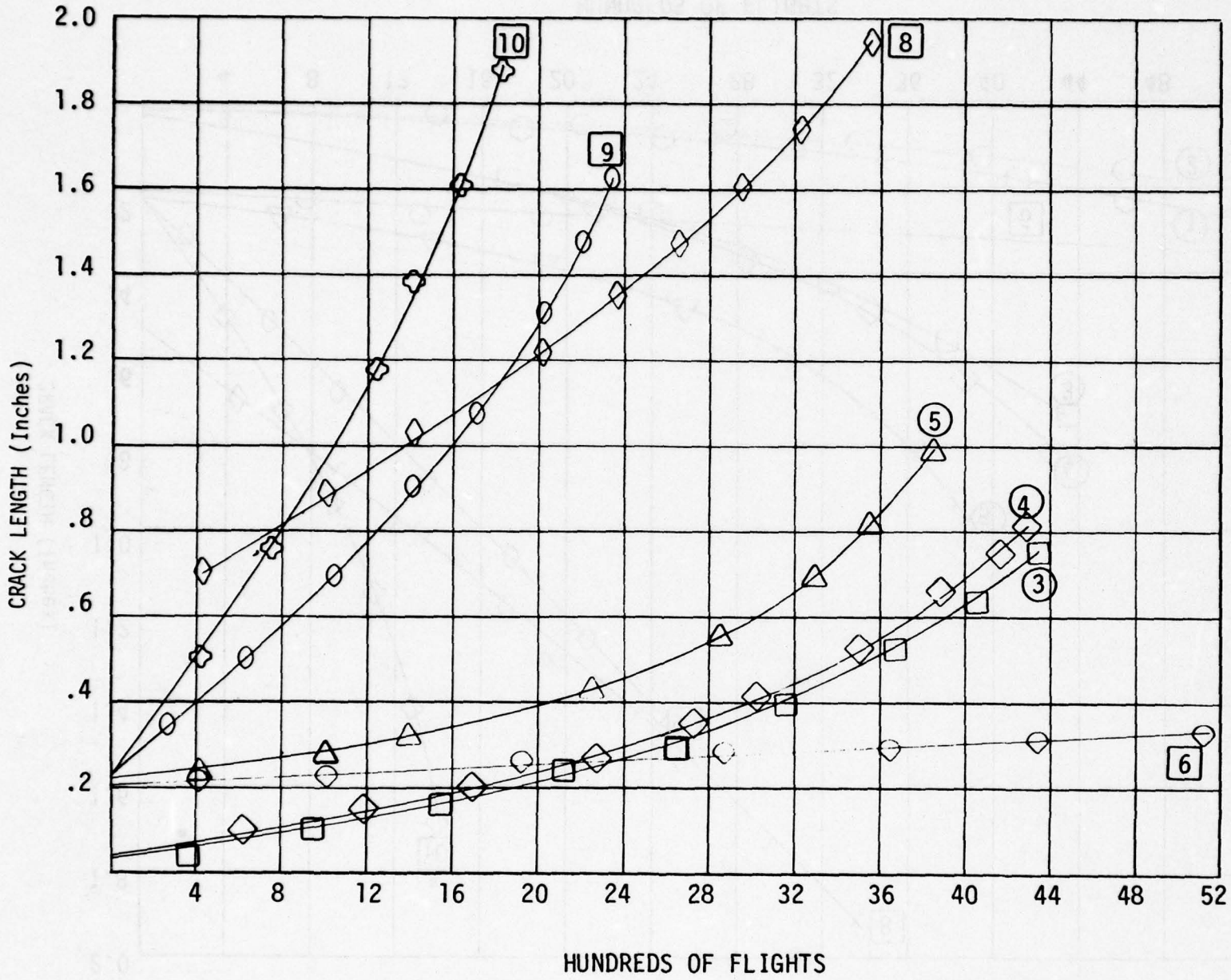

Figure 38. Crack Propagation Plot of Crack Length Vs Flights - AFCG-3 Side 2

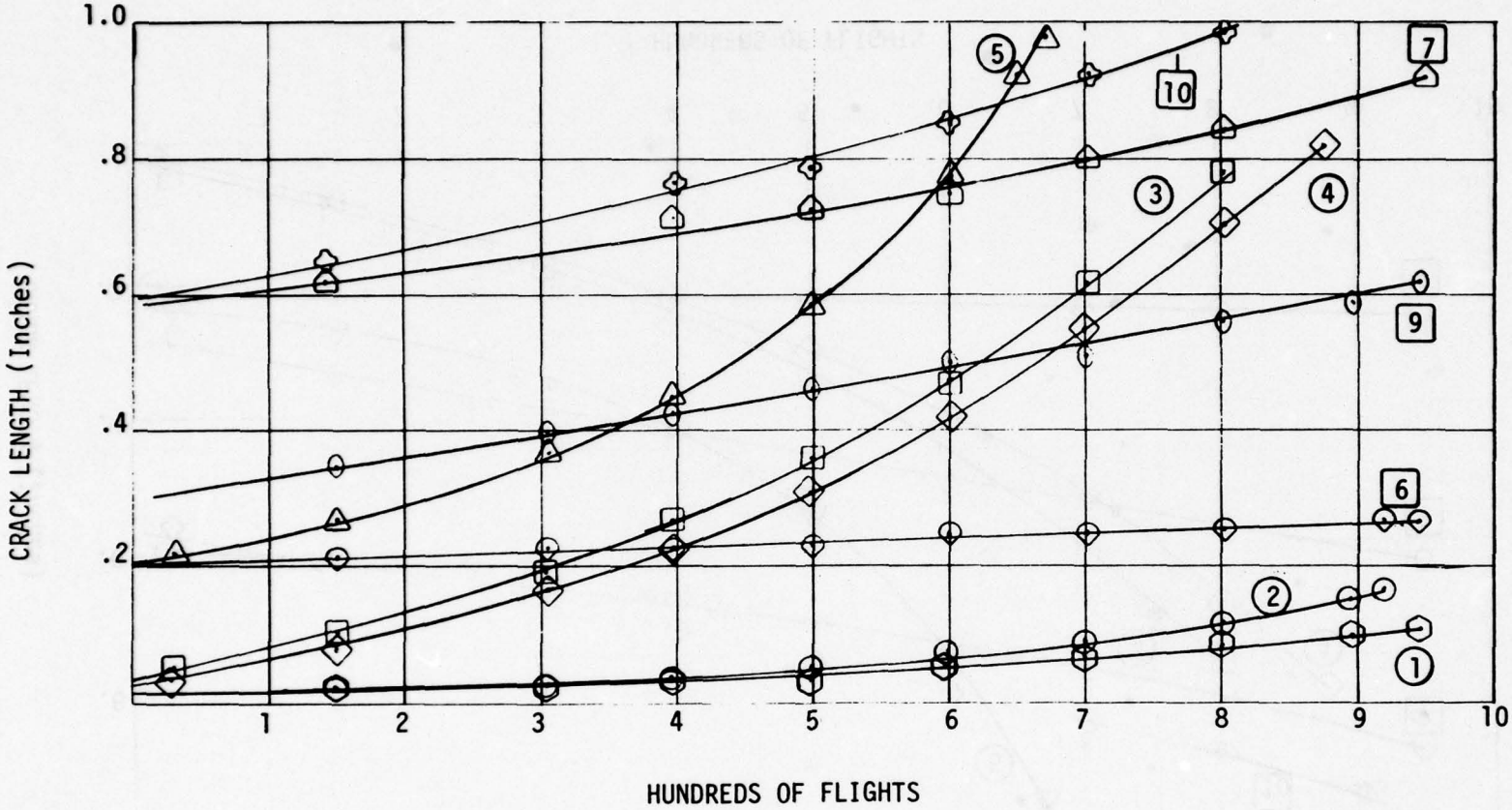

Figure 39. Crack Propagation Plot of Crack Length Vs Flights - AFCG-4 Side 1

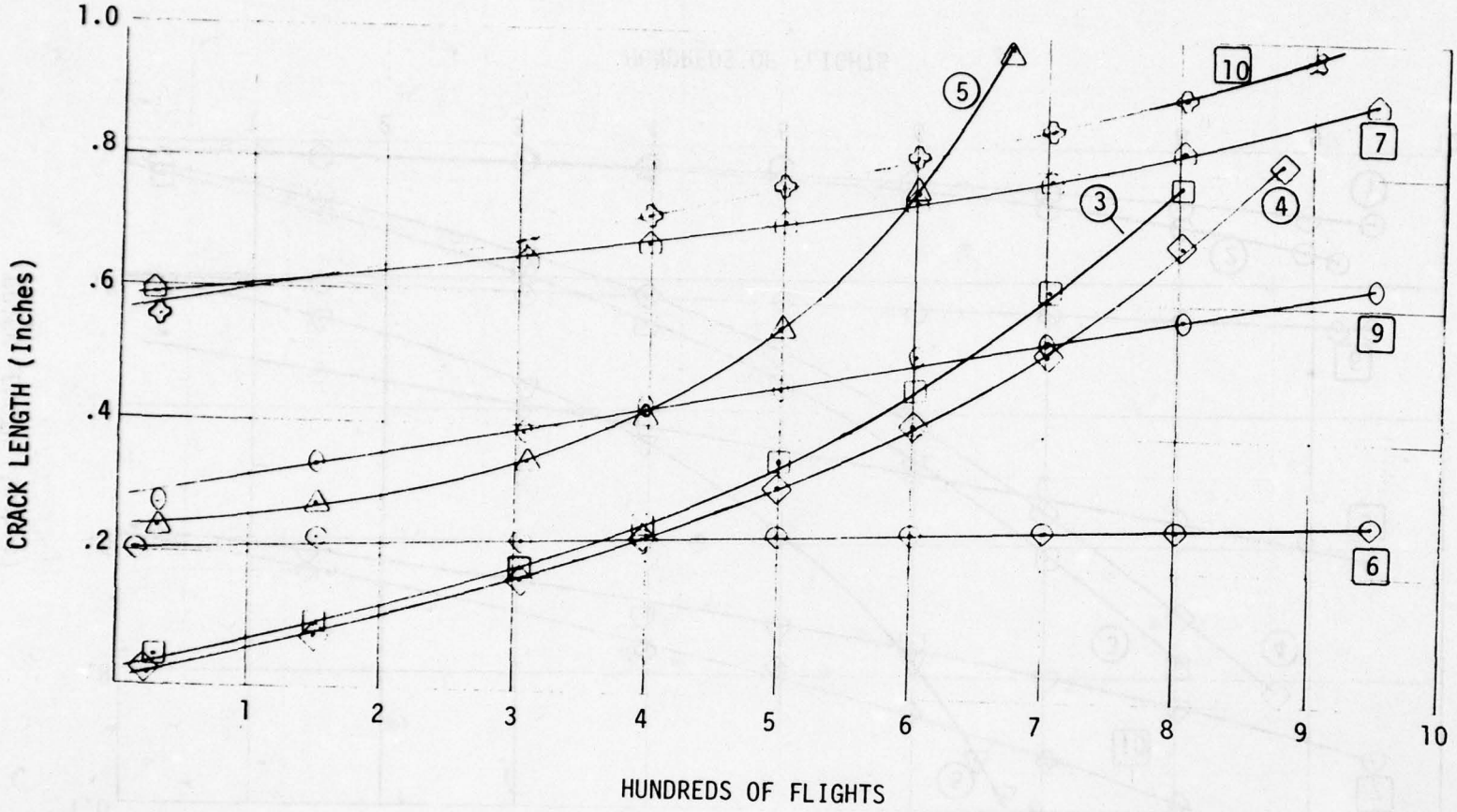

Figure 40. Crack Propagation Plot of Crack Length Vs Flights - AFCG-4 Side 2

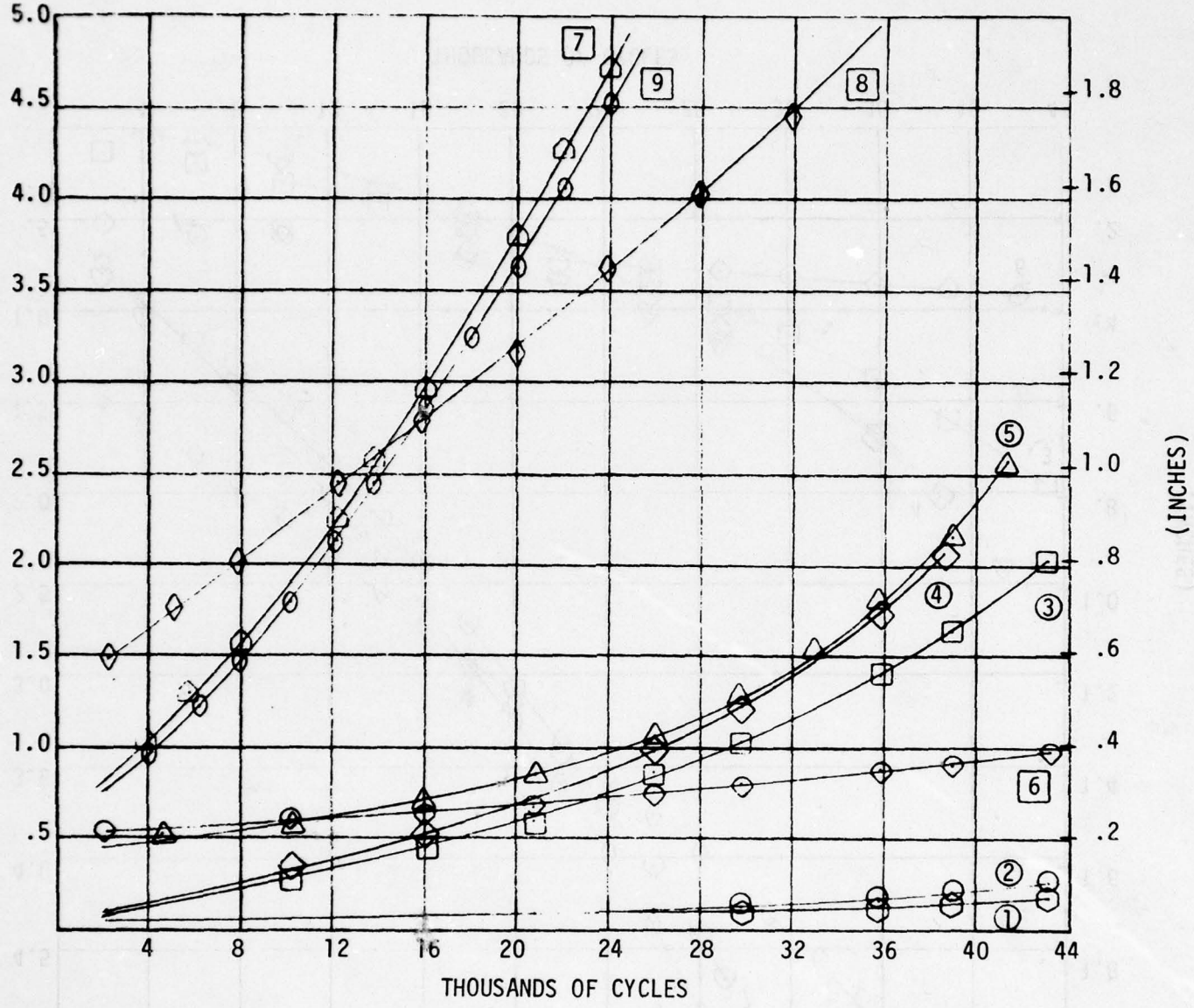

Figure 41. Crack Propagation Plot of Crack Length Vs Cycles - AFCG-5 Side 1

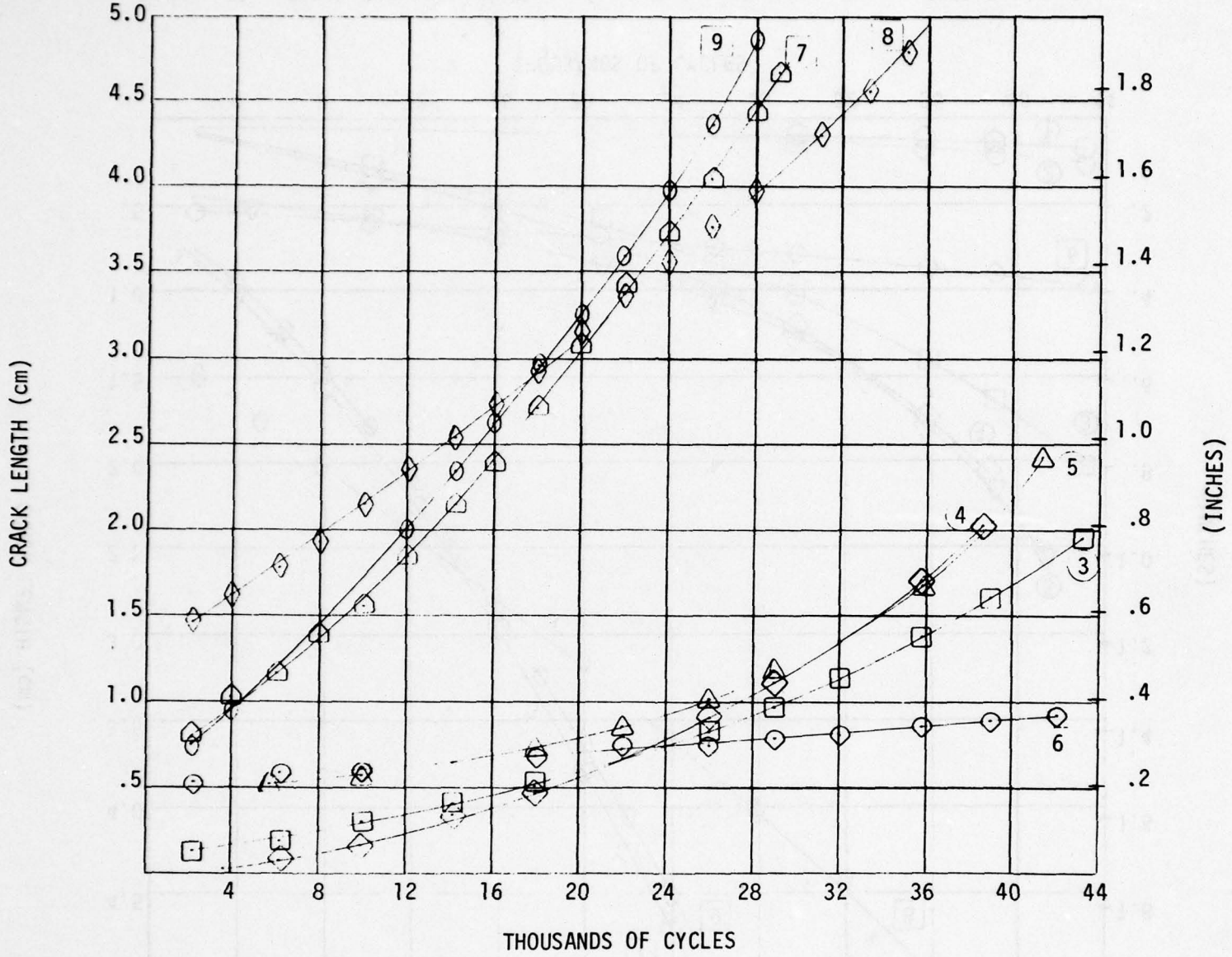

Figure 42. Crack Propagation Plot of Crack Length Vs Cycles - AFCG-5 Side 2

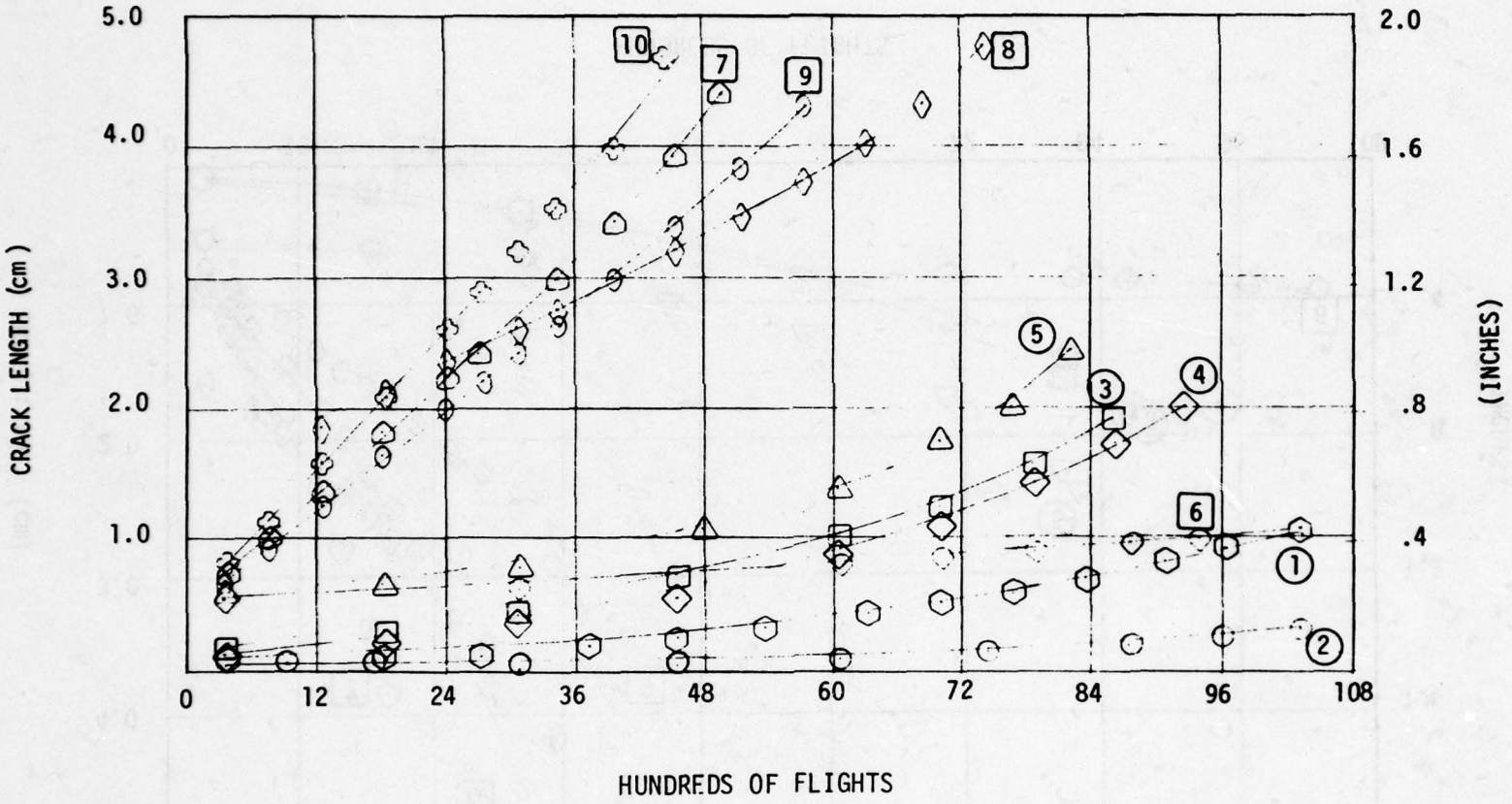

Figure 43. Crack Propagation Plot of Crack Length Vs Flights - AFCG-6 Side 1

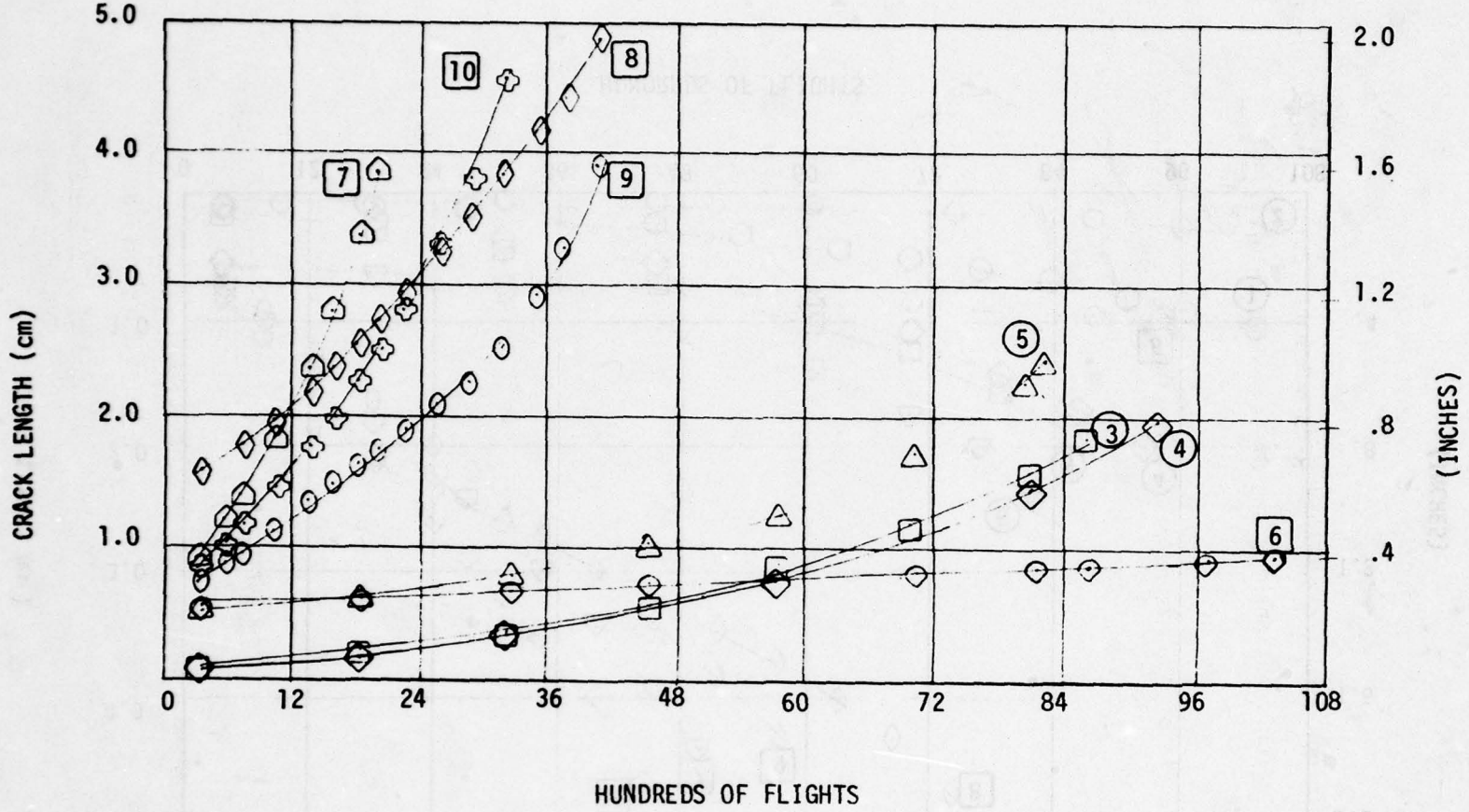

Figure 44. Crack Propagation Plot of Crack Length Vs Flights - AFCG-6 Side 2

SECTION V

K_{MAX} VS da/dn CALCULATIONS AND PLOTS

Printout from the computer programs which calculated and plotted K_{MAX} vs da/dn relationships are presented in this section.

Results of K_{MAX} vs da/dn calculations for each specimen flaw are presented in Tables 63 through 89 for Specimens AFCG-1 through AFCG-6, respectively.

Log-log plots of K_{MAX} vs da/dn for the structure flaws of the six test specimens are presented in Figures 45 through 71.

REFERENCES:

Newman, J.C., Jr.; Predicting Failure of Specimens with Either Surface Cracks or Corner Cracks at Holes. NASA TN D-8244. 1976.

Boeing Document D180-22966-1; Stress Intensity Factors for Through and Part Through Cracks at Neat Filled Holes. Feb. 1978.

AFFDL-TR-74-47, Volume 1; Fracture and Fatigue Crack Growth Behavior of Surface Flaws and Flaws Originating at Fastener Holes. Figure 92. May 1974.

Table 63. K_{MAX} Vs dc/dn Calculations - AFCG-1 Flaw 2

TEST CASE ID-- AFCG-1 F2
OF CYCLE ENTRIES,M= 25 — CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 — GROSS AREA STRESS,S= 10.018
FASTENER LOAD,P= 0.000 — HOLE DIAMETER,D= 0.2630
PANEL WIDTH,W= 4.0000 — PANEL THICKNESS,T= 0.3747
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	3000		0.0294		0.0294		4.782		
2	6600	3600	0.0320	2.6000E-03	0.0320	2.6000E-03	4.865	4.823	7.2222E-07
3	8000	1400	0.0330	1.0000E-03	0.0330	1.0000E-03	4.895	4.880	7.1429E-07
4	10800	2800	0.0355	2.5000E-03	0.0355	2.5000E-03	4.965	4.930	8.9286E-07
5	16000	5200	0.0390	3.5000E-03	0.0390	3.5000E-03	5.053	5.009	6.7308E-07
6	22200	6200	0.0440	5.0000E-03	0.0440	5.0000E-03	5.164	5.109	8.0645E-07
7	27600	5400	0.0500	6.0000E-03	0.0500	6.0000E-03	5.280	5.222	1.1111E-06
8	32000	4400	0.0540	4.0000E-03	0.0540	4.0000E-03	5.349	5.314	9.0909E-07
9	36000	4000	0.0600	6.0000E-03	0.0600	6.0000E-03	5.444	5.396	1.5000E-06
10	48000	12000	0.0830	2.3000E-02	0.0830	2.3000E-02	5.741	5.592	1.9167E-06
11	53000	5000	0.0989	1.5900E-02	0.0989	1.5900E-02	5.907	5.824	3.1800E-06
12	54800	1800	0.1055	6.6000E-03	0.1055	6.6000E-03	5.969	5.938	3.6667E-06
13	57200	2400	0.1152	9.7000E-03	0.1152	9.7000E-03	6.054	6.011	4.0417E-06
14	59600	2400	0.1255	1.0300E-02	0.1255	1.0300E-02	6.137	6.096	4.2917E-06
15	62400	2800	0.1385	1.3000E-02	0.1385	1.3000E-02	6.233	6.185	4.6429E-06
16	64600	2200	0.1490	1.0500E-02	0.1490	1.0500E-02	6.305	6.269	4.7727E-06
17	67000	2400	0.1618	1.2800E-02	0.1618	1.2800E-02	6.386	6.346	5.3333E-06
18	68600	1600	0.1715	9.7000E-03	0.1715	9.7000E-03	6.444	6.415	6.0625E-06
19	71000	2400	0.1870	1.5500E-02	0.1870	1.5500E-02	6.532	6.488	6.4583E-06
20	73200	2200	0.2010	1.4000E-02	0.2010	1.4000E-02	6.608	6.570	6.3636E-06
21	74800	1600	0.2125	1.1500E-02	0.2125	1.1500E-02	6.669	6.638	7.1875E-06
22	77000	2200	0.2285	1.6000E-02	0.2285	1.6000E-02	6.756	6.712	7.2727E-06
23	78600	1600	0.2402	1.1700E-02	0.2402	1.1700E-02	6.823	6.789	7.3125E-06
24	79600	1000	0.2490	8.8000E-03	0.2490	8.8000E-03	6.878	6.850	8.8000E-06
25	80600	1000	0.2569	7.9000E-03	0.2560	7.0000E-03	6.935	6.906	7.0000E-06

Table 64. K_{MAX} Vs dc/dn Calculations - AFCG-1 Flaw 3

TEST CASE ID-- AFCG-1 F3
OF CYCLE ENTRIES,M= 19 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 10.018
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3570
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3747
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THRUUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	3000		0.3750		0.0612		9.292		
2	4200	1200	0.3750	0.0000E+00	0.0770	1.5800E-02	9.371	9.331	1.3167E-05
3	6600	2400	0.3750	0.0000E+00	0.1090	3.2000E-02	9.770	9.570	1.3333E-05
4	8000	1400	0.3750	0.0000E+00	0.1290	2.0000E-02	10.005	9.888	1.4286E-05
5	10400	2400	0.3750	0.0000E+00	0.1639	3.4900E-02	10.367	10.186	1.4542E-05
6	13200	2800	0.3750	0.0000E+00	0.2090	4.5100E-02	10.754	10.560	1.6107E-05
7	15600	2400	0.3750	0.0000E+00	0.2500	4.1000E-02	11.051	10.903	1.7083E-05
8	17600	2000	0.3750	0.0000E+00	0.2860	3.6000E-02	11.285	11.168	1.8000E-05
9	20000	2400	0.3750	0.0000E+00	0.3332	4.7200E-02	11.568	11.427	1.9667E-05
10	22200	2200	0.3750	0.0000E+00	0.3790	4.5800E-02	11.830	11.699	2.0818E-05
11	23400	1200	0.3750	0.0000E+00	0.4088	2.9800E-02	11.997	11.914	2.4833E-05
12	25200	1800	0.3750	0.0000E+00	0.4570	4.8200E-02	12.269	12.133	2.6778E-05
13	27600	2400	0.3750	0.0000E+00	0.5249	6.7900E-02	12.665	12.467	2.8292E-05
14	31000	3400	0.3750	0.0000E+00	0.6240	9.9100E-02	13.281	12.973	2.9147E-05
15	32000	1000	0.3750	0.0000E+00	0.6575	3.3500E-02	13.503	13.392	3.3500E-05
16	33000	1000	0.3750	0.0000E+00	0.6915	3.4000E-02	13.736	13.619	3.4000E-05
17	34000	1000	0.3750	0.0000E+00	0.7260	3.4500E-02	13.981	13.858	3.4500E-05
18	35000	1000	0.3750	0.0000E+00	0.7630	3.7000E-02	14.254	14.117	3.7000E-05
19	36000	1000	0.3750	0.0000E+00	0.8007	3.7700E-02	14.545	14.400	3.7700E-05

Table 65. K_{MAX} Vs dc/dn Calculations - AFCG-1 Flaw 4

TEST CASE ID-- AFCG-1 F4
OF CYCLE ENTRIES,M= 19 — CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 — GROSS AREA STRESS,S= 10.018
FASTENER LOAD,P= 0.000 — HOLE DIAMETER,D= 0.3570
PANEL WIDTH,W= 4.0000 — PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	3000		0.3750		0.0082		4.929		
2	4200	1200	0.3750	0.0000E+00	0.0201	1.1900E-02	6.751	5.840	9.9167E-06
3	6600	2400	0.3750	0.0000E+00	0.0455	2.5400E-02	8.242	7.497	1.0583E-05
4	8000	1400	0.3750	0.0000E+00	0.0612	1.5700E-02	8.709	8.476	1.1214E-05
5	10400	2400	0.3750	0.0000E+00	0.0892	2.8000E-02	9.287	8.998	1.1667E-05
6	13200	2800	0.3750	0.0000E+00	0.1263	3.7100E-02	9.840	9.564	1.3250E-05
7	15600	2400	0.3750	0.0000E+00	0.1608	3.4500E-02	10.241	10.041	1.4375E-05
8	17600	2000	0.3750	0.0000E+00	0.1912	3.0400E-02	10.535	10.388	1.5200E-05
9	20000	2400	0.3750	0.0000E+00	0.2292	3.8000E-02	10.848	10.692	1.5833E-05
10	22200	2200	0.3750	0.0000E+00	0.2672	3.8000E-02	11.120	10.984	1.7273E-05
11	23400	1200	0.3750	0.0000E+00	0.2878	2.0600E-02	11.255	11.187	1.7167E-05
12	25200	1800	0.3750	0.0000E+00	0.3212	3.3400E-02	11.463	11.359	1.8556E-05
13	27600	2400	0.3750	0.0000E+00	0.3686	4.7400E-02	11.742	11.603	1.9750E-05
14	31000	3400	0.3750	0.0000E+00	0.4537	8.5100E-02	12.231	11.987	2.5029E-05
15	32000	1000	0.3750	0.0000E+00	0.4832	2.9500E-02	12.402	12.317	2.9500E-05
16	33000	1000	0.3750	0.0000E+00	0.5152	3.2000E-02	12.591	12.497	3.2000E-05
17	34000	1000	0.3750	0.0000E+00	0.5482	3.3000E-02	12.790	12.691	3.3000E-05
18	35000	1000	0.3750	0.0000E+00	0.5852	3.7000E-02	13.020	12.905	3.7000E-05
19	36000	1000	0.3750	0.0000E+00	0.6272	4.2000E-02	13.289	13.164	4.2000E-05

Table 66. K_{MAX} Vs d2c/dn Calculations - AFCG-1 Flaw 5

TEST CASE ID-- AFCG-1 F5
OF CYCLE ENTRIES,M= 18
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 9.9900

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 10.018
HOLE DIAMETER,D= 0.3000
PANEL THICKNESS,T= 0.3747

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	3000		0.3750		0.1154		6.159		
2	4200	1200	0.3750	0.0000E+00	0.1205	1.0100E-02	6.283	6.221	8.4167E-06
3	6600	2400	0.3750	0.0000E+00	0.1310	2.1100E-02	6.535	6.409	8.7917E-06
4	8000	1400	0.3750	0.0000E+00	0.1375	1.3000E-02	6.687	6.611	9.2857E-06
5	10400	2400	0.3750	0.0000E+00	0.1500	2.5000E-02	6.970	6.829	1.0417E-05
6	13200	2800	0.3750	0.0000E+00	0.1660	3.2000E-02	7.319	7.144	1.1429E-05
7	15600	2400	0.3750	0.0000E+00	0.1810	3.0000E-02	7.632	7.475	1.2500E-05
8	17600	2000	0.3750	0.0000E+00	0.1946	2.7200E-02	7.905	7.769	1.3600E-05
9	20000	2400	0.3750	0.0000E+00	0.2140	3.8800E-02	8.282	8.094	1.6167E-05
10	22200	2200	0.3750	0.0000E+00	0.2358	4.3500E-02	8.685	8.483	1.9773E-05
11	23400	1200	0.3750	0.0000E+00	0.2485	2.5400E-02	8.913	8.799	2.1167E-05
12	25200	1800	0.3750	0.0000E+00	0.2690	4.1100E-02	9.270	9.091	2.2833E-05
13	27600	2400	0.3750	0.0000E+00	0.3020	6.6000E-02	9.818	9.544	2.7500E-05
14	31000	3400	0.3750	0.0000E+00	0.3612	1.1830E-01	10.737	10.278	3.4794E-05
15	33000	2000	0.3750	0.0000E+00	0.4047	8.7000E-02	11.367	11.052	4.3500E-05
16	34000	1000	0.3750	0.0000E+00	0.4295	4.9700E-02	11.714	11.540	4.9700E-05
17	35000	1000	0.3750	0.0000E+00	0.4604	6.1700E-02	12.132	11.923	6.1700E-05
18	36000	1000	0.3750	0.0000E+00	0.4995	7.8300E-02	12.646	12.389	7.8300E-05

Table 67. K_{MAX} Vs dc/dn Calculations - AFCG-2 Flaw 3

TEST CASE ID-- AFCG-2 F3
OF CYCLE ENTRIES,M= 20 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 10.018
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3312
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3747
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	600		0.3750		0.0410		16.512		
2	4000	3400	0.3750	0.0000E+00	0.0580	1.7000E-02	9.102	12.807	5.0000E-06
3	5800	1800	0.3750	0.0000E+00	0.0680	1.0000E-02	9.049	9.075	5.5556E-06
4	9400	3600	0.3750	0.0000E+00	0.0931	2.5100E-02	9.315	9.182	6.9722E-06
5	13600	4200	0.3750	0.0000E+00	0.1260	3.2900E-02	9.704	9.509	7.8333E-06
6	17800	4200	0.3750	0.0000E+00	0.1630	3.7000E-02	10.075	9.890	8.8095E-06
7	21400	3600	0.3750	0.0000E+00	0.2000	3.7000E-02	10.385	10.230	1.0278E-05
8	25000	3600	0.3750	0.0000E+00	0.2380	3.8000E-02	10.659	10.522	1.0556E-05
9	28600	3600	0.3750	0.0000E+00	0.2800	4.2000E-02	10.927	10.793	1.1667E-05
10	32800	4200	0.3750	0.0000E+00	0.3360	5.6000E-02	11.256	11.092	1.3333E-05
11	35200	2400	0.3750	0.0000E+00	0.3703	3.4300E-02	11.451	11.353	1.4292E-05
12	38200	3000	0.3750	0.0000E+00	0.4180	4.7700E-02	11.717	11.584	1.5900E-05
13	40600	2400	0.3750	0.0000E+00	0.4610	4.3000E-02	11.961	11.839	1.7917E-05
14	42000	1400	0.3750	0.0000E+00	0.4895	2.8500E-02	12.127	12.044	2.0357E-05
15	44400	2400	0.3750	0.0000E+00	0.5350	4.5500E-02	12.398	12.262	1.8958E-05
16	46800	2400	0.3750	0.0000E+00	0.5866	5.1600E-02	12.718	12.558	2.1500E-05
17	47800	1000	0.3750	0.0000E+00	0.6080	2.1400E-02	12.856	12.787	2.1400E-05
18	50200	2400	0.3750	0.0000E+00	0.6659	5.7900E-02	13.241	13.048	2.4125E-05
19	52600	2400	0.3750	0.0000E+00	0.7270	6.1100E-02	13.672	13.457	2.5458E-05
20	55000	2400	0.3750	0.0000E+00	0.7984	7.1400E-02	14.214	13.943	2.9750E-05

Table 68. K_{MAX} Vs dc/dn Calculations - AFCG-2 Flaw 4

TEST CASE ID-- AFCG-2 F4
OF CYCLE ENTRIES,M= 20 — CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 — GROSS AREA STRESS,S= 10.018
FASTENER LOAD,P= 0.000 — HOLE DIAMETER,D= 0.3312
PANEL WIDTH,W= 4.0000 — PANEL THICKNESS,T= 0.3747
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	600		0.3750		0.0491		9.819		
2	4000	3400	0.3750	0.0000E+00	0.0661	1.7000E-02	9.041	9.430	5.0000E-06
3	5800	1800	0.3750	0.0000E+00	0.0760	9.9000E-03	9.114	9.077	5.5000E-06
4	9400	3600	0.3750	0.0000E+00	0.1000	2.4000E-02	9.400	9.257	6.6667E-06
5	13600	4200	0.3750	0.0000E+00	0.1315	3.1500E-02	9.764	9.582	7.5000E-06
6	17800	4200	0.3750	0.0000E+00	0.1660	3.4500E-02	10.103	9.933	8.2143E-06
7	21400	3600	0.3750	0.0000E+00	0.1970	3.1000E-02	10.362	10.232	8.6111E-06
8	25000	3600	0.3750	0.0000E+00	0.2310	3.4000E-02	10.611	10.487	9.4444E-06
9	28600	3600	0.3750	0.0000E+00	0.2682	3.7200E-02	10.855	10.733	1.0333E-05
10	32800	4200	0.3750	0.0000E+00	0.3175	4.9300E-02	11.150	11.002	1.1738E-05
11	35200	2400	0.3750	0.0000E+00	0.3495	3.2000E-02	11.333	11.241	1.3333E-05
12	38200	3000	0.3750	0.0000E+00	0.3904	4.0900E-02	11.563	11.448	1.3633E-05
13	40600	2400	0.3750	0.0000E+00	0.4260	3.5600E-02	11.762	11.662	1.4833E-05
14	42000	1400	0.3750	0.0000E+00	0.4492	2.3200E-02	11.894	11.828	1.6571E-05
15	44400	2400	0.3750	0.0000E+00	0.4860	3.6800E-02	12.106	12.000	1.5333E-05
16	46800	2400	0.3750	0.0000E+00	0.5302	4.4200E-02	12.369	12.238	1.8417E-05
17	47800	1000	0.3750	0.0000E+00	0.5480	1.7800E-02	12.477	12.423	1.7800E-05
18	50200	2400	0.3750	0.0000E+00	0.5975	4.9500E-02	12.788	12.633	2.0625E-05
19	52600	2400	0.3750	0.0000E+00	0.6501	5.2600E-02	13.134	12.961	2.1917E-05
20	55000	2400	0.3750	0.0000E+00	0.7097	5.9600E-02	13.548	13.341	2.4833E-05

Table 69. K_{MAX} Vs d2c/dn Calculations - AFCG-2 Flaw 5

TEST CASE ID-- AFCG-2 F5
OF CYCLE ENTRIES,M= 28
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 9.9900

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 10.018
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.3747

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/IN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	600		0.3750		0.1090		5.999		
2	4000	3400	0.3750	0.0000E+00	0.1095	1.0000E-03	6.012	6.005	2.9412E-07
3	5800	1800	0.3750	0.0000E+00	0.1095	0.0000E+00	6.012	6.012	0.0000E+00
4	9400	3600	0.3750	0.0000E+00	0.1102	1.4000E-03	6.029	6.020	3.8889E-07
5	13600	4200	0.3750	0.0000E+00	0.1100	-4.0000E-04	6.024	6.027	-9.5238E-08
6	17800	4200	0.3750	0.0000E+00	0.1105	1.0000E-03	6.037	6.031	2.3810E-07
7	21400	3600	0.3750	0.0000E+00	0.1115	2.0000E-03	6.062	6.049	5.5556E-07
8	25000	3600	0.3750	0.0000E+00	0.1127	2.4000E-03	6.092	6.077	6.6667E-07
9	28600	3600	0.3750	0.0000E+00	0.1145	3.6000E-03	6.137	6.114	1.0000E-06
10	32800	4200	0.3750	0.0000E+00	0.1165	4.0000E-03	6.186	6.161	9.5238E-07
11	35200	2400	0.3750	0.0000E+00	0.1180	3.0000E-03	6.223	6.204	1.2500E-06
12	38200	3000	0.3750	0.0000E+00	0.1200	4.0000E-03	6.272	6.247	1.3333E-06
13	40600	2400	0.3750	0.0000E+00	0.1220	4.0000E-03	6.320	6.296	1.6667E-06
14	42000	1400	0.3750	0.0000E+00	0.1230	2.0000E-03	6.345	6.332	1.4286E-06
15	47800	5800	0.3750	0.0000E+00	0.1280	1.0000E-02	6.464	6.404	1.7241E-06
16	52600	4800	0.3750	0.0000E+00	0.1335	1.1000E-02	6.594	6.529	2.2917E-06
17	55000	2400	0.3750	0.0000E+00	0.1363	5.5000E-03	6.658	6.626	2.2917E-06
18	63300	8800	0.3750	0.0000E+00	0.1520	3.1500E-02	7.015	6.836	3.5795E-06
19	71800	8000	0.3750	0.0000E+00	0.1750	4.6000E-02	7.508	7.261	5.7500E-06
20	78000	6200	0.3750	0.0000E+00	0.2014	5.2800E-02	8.039	7.773	8.5161E-06
21	83400	5400	0.3750	0.0000E+00	0.2340	6.5200E-02	8.653	8.346	1.2074E-05
22	88000	4600	0.3750	0.0000E+00	0.2710	7.4000E-02	9.304	8.979	1.6087E-05
23	90600	2600	0.3750	0.0000E+00	0.2958	4.9600E-02	9.718	9.511	1.9077E-05
24	92400	1800	0.3750	0.0000E+00	0.3155	3.9400E-02	10.035	9.876	2.1889E-05
25	98800	6400	0.3750	0.0000E+00	0.4063	1.8150E-01	11.390	10.712	2.8359E-05
26	101400	2600	0.3750	0.0000E+00	0.4545	9.6500E-02	12.054	11.722	3.7115E-05
27	102600	1200	0.3750	0.0000E+00	0.4805	5.2000E-02	12.399	12.226	4.3333E-05
28	103400	800	0.3750	0.0000E+00	0.5000	3.8900E-02	12.652	12.525	4.8625E-05

Table 70. K_{MAX} Vs dc/dn Calculations - AFCG-3 Flaw 1

TEST CASE ID-- AFCG-3 F1
OF CYCLE ENTRIES,M= 28 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 16.230
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3210
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	0		0.0150		0.0150		6.810		
2	233	233	0.0200	5.0000E-03	0.0200	5.0000E-03	7.429	7.120	2.1459E-05
3	450	217	0.0240	4.0000E-03	0.0240	4.0000E-03	7.804	7.617	1.8433E-05
4	721	271	0.0319	7.9000E-03	0.0319	7.9000E-03	8.356	8.080	2.9151E-05
5	1000	279	0.0389	7.0000E-03	0.0389	7.0000E-03	8.714	8.535	2.5090E-05
6	1195	195	0.0440	5.1000E-03	0.0440	5.1000E-03	8.927	8.821	2.6154E-05
7	1405	210	0.0500	6.0000E-03	0.0500	6.0000E-03	9.141	9.034	2.8571E-05
8	1602	197	0.0550	5.0000E-03	0.0550	5.0000E-03	9.297	9.219	2.5381E-05
9	1921	319	0.0660	1.1000E-02	0.0660	1.1000E-02	9.593	9.445	3.4483E-05
10	2124	203	0.0749	8.9000E-03	0.0749	8.9000E-03	9.798	9.695	4.3842E-05
11	2595	471	0.0940	1.9100E-02	0.0940	1.9100E-02	10.172	9.985	4.0552E-05
12	2857	262	0.1060	1.2000E-02	0.1060	1.2000E-02	10.375	10.274	4.5802E-05
13	3057	200	0.1164	1.0400E-02	0.1164	1.0400E-02	10.536	10.455	5.1000E-05
14	3200	143	0.1240	7.6000E-03	0.1240	7.6000E-03	10.646	10.591	5.3147E-05
15	3380	180	0.1342	1.0200E-02	0.1342	1.0200E-02	10.784	10.715	5.6667E-05
16	3640	260	0.1490	1.4800E-02	0.1490	1.4800E-02	10.969	10.877	5.6923E-05
17	3720	80	0.1546	5.6000E-03	0.1546	5.6000E-03	11.035	11.002	7.0000E-05
18	3854	134	0.1640	9.4000E-03	0.1640	9.4000E-03	11.141	11.088	7.0149E-05
19	3965	111	0.1700	6.0000E-03	0.1700	6.0000E-03	11.207	11.174	5.4054E-05
20	4075	110	0.1790	9.0000E-03	0.1790	9.0000E-03	11.301	11.254	8.1818E-05
21	4200	125	0.1878	8.8000E-03	0.1878	8.8000E-03	11.390	11.345	7.0400E-05
22	4291	91	0.1960	8.2000E-03	0.1960	8.2000E-03	11.470	11.430	9.0110E-05
23	4344	53	0.2010	5.0000E-03	0.2010	5.0000E-03	11.518	11.494	9.4340E-05
24	4640	296	0.2280	2.7000E-02	0.2280	2.7000E-02	11.778	11.648	9.1216E-05
25	4786	146	0.2435	1.5500E-02	0.2435	1.5500E-02	11.936	11.857	1.0616E-04
26	4886	100	0.2537	1.0200E-02	0.2537	1.0200E-02	12.051	11.994	1.0200E-04
27	4996	110	0.2655	1.1800E-02	0.2655	1.1800E-02	12.202	12.126	1.0727E-04
28	5150	154	0.2810	1.5500E-02	0.2810	1.5500E-02	12.445	12.223	1.0065E-04

Table 71. K_{MAX} Vs dc/dn Calculations - AFCG-3 Flaw 2

TEST CASE ID-- AFCG-3 F2
OF CYCLE ENTRIES,M= 26 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 16.230
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.2970
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	233		0.0219		0.0219		7.475		
2	525	292	0.0250	3.1000E-03	0.0250	3.1000E-03	7.728	7.602	1.0616E-05
3	721	196	0.0270	2.0000E-03	0.0270	2.0000E-03	7.871	7.800	1.0204E-05
4	1000	279	0.0300	3.0000E-03	0.0300	3.0000E-03	8.062	7.966	1.0753E-05
5	1195	195	0.0340	4.0000E-03	0.0340	4.0000E-03	8.280	8.171	2.0513E-05
6	1405	210	0.0360	2.0000E-03	0.0360	2.0000E-03	8.377	8.328	9.5238E-06
7	1602	197	0.0400	4.0000E-03	0.0400	4.0000E-03	8.552	8.464	2.0305E-05
8	1921	319	0.0480	8.0000E-03	0.0480	8.0000E-03	8.844	8.698	2.5078E-05
9	2225	304	0.0560	8.0000E-03	0.0560	8.0000E-03	9.086	8.965	2.6316E-05
10	2458	233	0.0650	9.0000E-03	0.0650	9.0000E-03	9.317	9.201	3.8627E-05
11	2700	242	0.0731	8.1000E-03	0.0731	8.1000E-03	9.500	9.408	3.3471E-05
12	2857	157	0.0800	6.9000E-03	0.0800	6.9000E-03	9.642	9.571	4.3949E-05
13	3057	200	0.0890	9.0000E-03	0.0890	9.0000E-03	9.812	9.727	4.5000E-05
14	3200	143	0.0960	7.0000E-03	0.0960	7.0000E-03	9.935	9.874	4.8951E-05
15	3380	180	0.1037	7.7000E-03	0.1037	7.7000E-03	10.061	9.998	4.2778E-05
16	3552	172	0.1108	7.1000E-03	0.1108	7.1000E-03	10.170	10.116	4.1279E-05
17	3720	168	0.1180	7.2000E-03	0.1180	7.2000E-03	10.275	10.223	4.2857E-05
18	3854	134	0.1269	8.9000E-03	0.1269	8.9000E-03	10.397	10.336	6.6418E-05
19	3965	111	0.1323	5.4000E-03	0.1323	5.4000E-03	10.467	10.432	4.8649E-05
20	4148	183	0.1409	8.6000E-03	0.1409	8.6000E-03	10.574	10.521	4.6995E-05
21	4291	143	0.1490	8.1000E-03	0.1490	8.1000E-03	10.669	10.622	5.6643E-05
22	4344	53	0.1510	2.0000E-03	0.1510	2.0000E-03	10.692	10.680	3.7736E-05
23	4640	296	0.1690	1.8000E-02	0.1690	1.8000E-02	10.886	10.789	6.0811E-05
24	4886	246	0.1840	1.5000E-02	0.1840	1.5000E-02	11.034	10.960	6.0976E-05
25	4996	110	0.1900	6.0000E-03	0.1900	6.0000E-03	11.091	11.063	5.45456-05
26	5150	154	0.2009	1.0900E-02	0.2009	1.0900E-02	11.193	11.142	7.87796-05

AD-A076 320 BOEING WICHITA CO KS F/G 20/11
EVALUATION OF THE CRACK GAGE CONCEPT FOR MONITORING AIRCRAFT FL--ETC(U)
JUN 79 G G CASSATT F33615-77-C-5073
UNCLASSIFIED AFML-TR-79-4037-VOL-2 NL

3 OF 3
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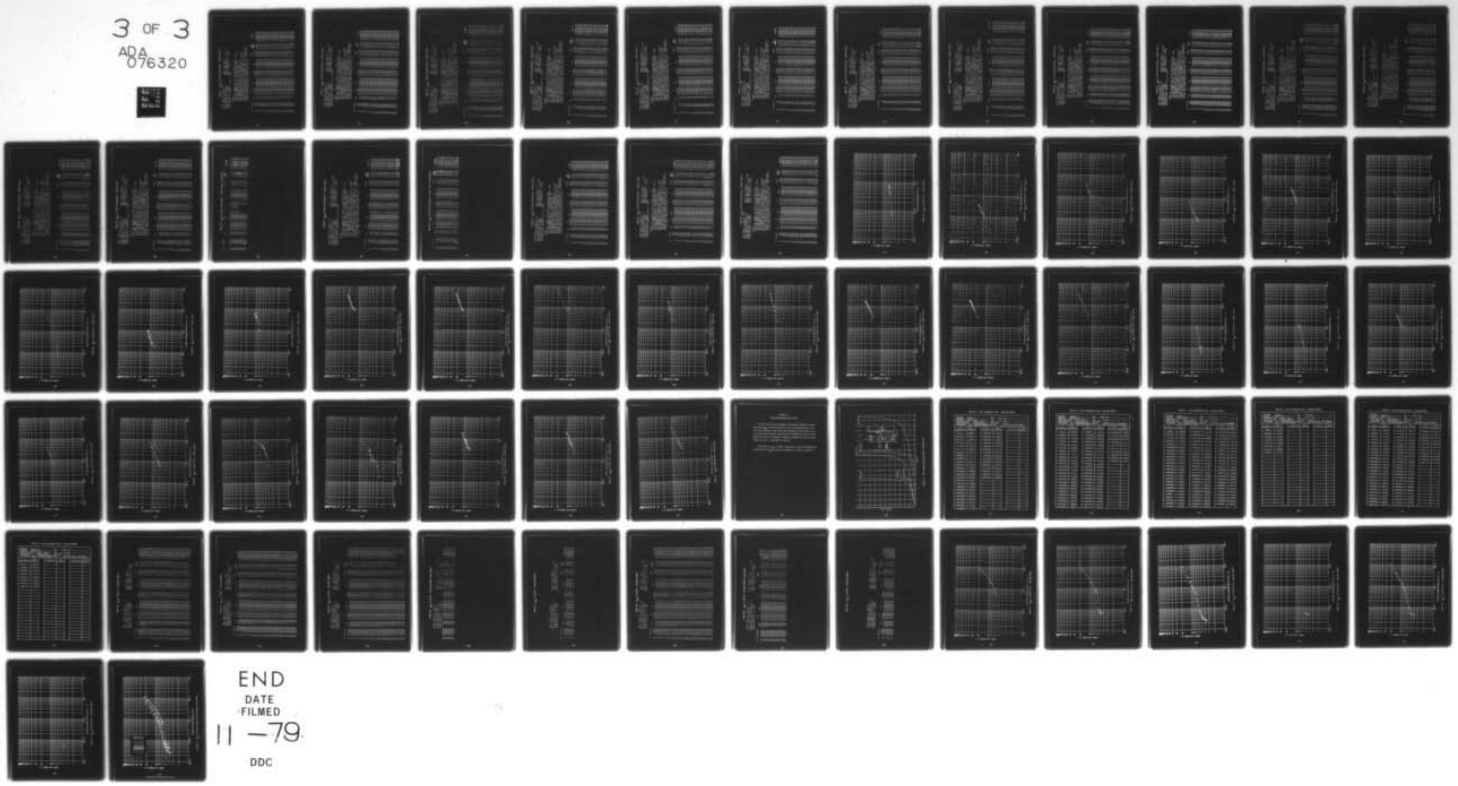

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Table 72. K_{MAX} Vs dc/dn Calculations - AFCG-3 Flaw 3

TEST CASE ID-- AFCG-3 F3
OF CYCLE ENTRIES,M= 27 CRACK TYPE CODE,E= 3
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 16.230
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3218
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	Avg KMAX	DC/DN
1	233		0.3750		0.0510		13.180		
2	410	177	0.3750	0.0000E+00	0.0650	1.4000E-02	13.750	13.465	7.9096E-05
3	635	225	0.3750	0.0000E+00	0.0840	1.9000E-02	14.353	14.052	8.4444E-05
4	847	212	0.3750	0.0000E+00	0.1020	1.8000E-02	14.822	14.587	8.4906E-05
5	1000	153	0.3750	0.0000E+00	0.1160	1.4000E-02	15.140	14.981	9.1503E-05
6	1195	195	0.3750	0.0000E+00	0.1338	1.7800E-02	15.500	15.320	9.1282E-05
7	1405	210	0.3750	0.0000E+00	0.1550	2.1200E-02	15.875	15.687	1.0095E-04
8	1602	197	0.3750	0.0000E+00	0.1760	2.1000E-02	16.203	16.039	1.0660E-04
9	1821	219	0.3750	0.0000E+00	0.2010	2.5000E-02	16.549	16.376	1.1416E-04
10	2024	203	0.3750	0.0000E+00	0.2270	2.6000E-02	16.869	16.709	1.2808E-04
11	2225	201	0.3750	0.0000E+00	0.2530	2.6000E-02	17.161	17.015	1.2935E-04
12	2458	233	0.3750	0.0000E+00	0.2860	3.3000E-02	17.504	17.332	1.4163E-04
13	2595	137	0.3750	0.0000E+00	0.3070	2.1000E-02	17.710	17.607	1.5328E-04
14	2857	262	0.3750	0.0000E+00	0.3500	4.3000E-02	18.118	17.914	1.6412E-04
15	3057	200	0.3750	0.0000E+00	0.3864	3.6400E-02	18.456	18.287	1.8200E-04
16	3200	143	0.3750	0.0000E+00	0.4159	2.9500E-02	18.730	18.593	2.0629E-04
17	3380	180	0.3750	0.0000E+00	0.4545	3.8600E-02	19.091	18.910	2.1444E-04
18	3552	172	0.3750	0.0000E+00	0.4960	4.1500E-02	19.487	19.289	2.4128E-04
19	3640	88	0.3750	0.0000E+00	0.5180	2.2000E-02	19.702	19.594	2.5000E-04
20	3720	80	0.3750	0.0000E+00	0.5370	1.9000E-02	19.889	19.796	2.3750E-04
21	3854	134	0.3750	0.0000E+00	0.5784	4.1400E-02	20.309	20.099	3.0896E-04
22	3923	69	0.3750	0.0000E+00	0.5980	1.9600E-02	20.512	20.411	2.8406E-04
23	4038	115	0.3750	0.0000E+00	0.6350	3.7000E-02	20.906	20.709	3.2174E-04
24	4148	110	0.3750	0.0000E+00	0.6720	3.7000E-02	21.314	21.110	3.3636E-04
25	4240	92	0.3750	0.0000E+00	0.7070	3.5000E-02	21.713	21.514	3.8043E-04
26	4291	51	0.3750	0.0000E+00	0.7260	1.9000E-02	21.936	21.825	3.7255E-04
27	4344	53	0.3750	0.0000E+00	0.7470	2.1000E-02	22.187	22.062	3.9623E-04

Table 73. K_{MAX} Vs dc/dn Calculations - AFCG-3 Flaw 4

TEST CASE ID-- AFCG-3 F4
OF CYCLE ENTRIES,M= 26 — CRACK TYPE CODE,E= 3
OF CRACKS IN HOLE,B= 1 — GROSS AREA STRESS,S= 16.230
FASTENER LOAD,P= 0.000 — HOLE DIAMETER,D= 0.2962
PANEL WIDTH,W= 4.0000 — PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	233		0.3750		0.0640		13.322		
2	410	177	0.3750	0.0000E+00	0.0722	8.2000E-03	13.593	13.457	4.6328E-05
3	635	225	0.3750	0.0000E+00	0.0910	1.8800E-02	14.122	13.857	8.3556E-05
4	847	212	0.3750	0.0000E+00	0.1090	1.8000E-02	14.548	14.335	8.4906E-05
5	1000	153	0.3750	0.0000E+00	0.1230	1.4000E-02	14.838	14.693	9.1503E-05
6	1195	195	0.3750	0.0000E+00	0.1420	1.9000E-02	15.187	15.012	9.7436E-05
7	1405	210	0.3750	0.0000E+00	0.1644	2.2400E-02	15.546	15.366	1.0667E-04
8	1602	197	0.3750	0.0000E+00	0.1870	2.2600E-02	15.864	15.705	1.1472E-04
9	1821	219	0.3750	0.0000E+00	0.2130	2.6000E-02	16.189	16.026	1.1872E-04
10	2024	203	0.3750	0.0000E+00	0.2390	2.6000E-02	16.482	16.335	1.2808E-04
11	2225	201	0.3750	0.0000E+00	0.2680	2.9000E-02	16.785	16.633	1.4428E-04
12	2458	233	0.3750	0.0000E+00	0.3030	3.5000E-02	17.128	16.957	1.5021E-04
13	2595	137	0.3750	0.0000E+00	0.3260	2.3000E-02	17.347	17.238	1.6788E-04
14	2857	262	0.3750	0.0000E+00	0.3740	4.8000E-02	17.795	17.571	1.8321E-04
15	3057	200	0.3750	0.0000E+00	0.4141	4.0100E-02	18.170	17.982	2.0050E-04
16	3200	143	0.3750	0.0000E+00	0.4460	3.1900E-02	18.472	18.321	2.2308E-04
17	3380	180	0.3750	0.0000E+00	0.4900	4.4000E-02	18.897	18.684	2.4444E-04
18	3552	172	0.3750	0.0000E+00	0.5362	4.6200E-02	19.358	19.127	2.6860E-04
19	3640	88	0.3750	0.0000E+00	0.5620	2.5800E-02	19.622	19.490	2.9318E-04
20	3720	80	0.3750	0.0000E+00	0.5830	2.1000E-02	19.841	19.732	2.6250E-04
21	3854	134	0.3750	0.0000E+00	0.6320	4.9000E-02	20.368	20.105	3.6567E-04
22	3923	69	0.3750	0.0000E+00	0.6570	2.5000E-02	20.645	20.507	3.6232E-04
23	4038	115	0.3750	0.0000E+00	0.7010	4.4000E-02	21.149	20.897	3.8261E-04
24	4148	110	0.3750	0.0000E+00	0.7470	4.6000E-02	21.698	21.423	4.1818E-04
25	4240	92	0.3750	0.0000E+00	0.7899	4.2900E-02	22.232	21.965	4.6630E-04
26	4291	51	0.3750	0.0000E+00	0.8142	2.4300E-02	22.546	22.389	4.7647E-04

Table 74. K_{MAX} Vs d2c/dn Calculations - AFCG-3 Flaw 5

TEST CASE ID-- AFCG-3 F5
OF CYCLE ENTRIES,M= 21
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 10.0000

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 16.230
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 2.3750

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	233		0.3750		0.1110		9.587		
2	410	177	0.3750	0.0000E+00	0.1180	1.4000E-02	9.885	9.736	7.9096E-05
3	635	225	0.3750	0.0000E+00	0.1275	1.9000E-02	10.276	10.081	8.4444E-05
4	847	212	0.3750	0.0000E+00	0.1365	1.8000E-02	10.633	10.455	8.4906E-05
5	1000	153	0.3750	0.0000E+00	0.1430	1.2900E-02	10.882	10.757	8.4314E-05
6	1195	195	0.3750	0.0000E+00	0.1526	1.9300E-02	11.244	11.063	9.8974E-05
7	1405	210	0.3750	0.0000E+00	0.1626	1.9900E-02	11.606	11.425	9.4762E-05
8	1602	197	0.3750	0.0000E+00	0.1725	1.9900E-02	11.957	11.781	1.0102E-04
9	1821	219	0.3750	0.0000E+00	0.1845	2.4000E-02	12.367	12.162	1.0959E-04
10	2024	203	0.3750	0.0000E+00	0.1984	2.7800E-02	12.826	12.596	1.3695E-04
11	2225	201	0.3750	0.0000E+00	0.2120	2.7200E-02	13.260	13.043	1.3532E-04
12	2458	233	0.3750	0.0000E+00	0.2320	4.0000E-02	13.874	13.567	1.7167E-04
13	2595	137	0.3750	0.0000E+00	0.2450	2.6000E-02	14.260	14.067	1.8978E-04
14	2857	262	0.3750	0.0000E+00	0.2760	6.2000E-02	15.141	14.701	2.3664E-04
15	3057	200	0.3750	0.0000E+00	0.3040	5.6000E-02	15.897	15.519	2.8000E-04
16	3200	143	0.3750	0.0000E+00	0.3275	4.7000E-02	16.506	16.202	3.2867E-04
17	3380	180	0.3750	0.0000E+00	0.3605	6.6000E-02	17.328	16.917	3.6667E-04
18	3552	172	0.3750	0.0000E+00	0.4000	7.8900E-02	18.265	17.796	4.5872E-04
19	3640	88	0.3750	0.0000E+00	0.4215	4.3100E-02	18.759	18.512	4.8977E-04
20	3720	80	0.3750	0.0000E+00	0.4405	3.8000E-02	19.185	18.972	4.7500E-04
21	3854	134	0.3750	0.0000E+00	0.4880	9.5000E-02	20.215	19.700	7.0896E-04

Table 75. K_{MAX} Vs dc/dn Calculations - AFCG-4 Flaw 1

TEST CASE ID-- AFCG-4 F1
OF CYCLE ENTRIES,M= 20 CRACK TYPE CODE,E= 3
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 21.910
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.2800
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--, DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	2		0.0182		0.0182		9.468		
2	30	28	0.0189	7.0000E-04	0.0189	7.0000E-04	9.567	9.517	2.5000E-05
3	74	44	0.0190	1.0000E-04	0.0190	1.0000E-04	9.580	9.574	2.2727E-06
4	150	76	0.0228	3.8000E-03	0.0228	3.8000E-03	10.044	9.812	5.0000E-05
5	253	103	0.0277	4.9000E-03	0.0277	4.9000E-03	10.514	10.279	4.7573E-05
6	305	52	0.0293	1.6000E-03	0.0293	1.6000E-03	10.644	10.579	3.0769E-05
7	359	54	0.0335	4.2000E-03	0.0335	4.2000E-03	10.947	10.795	7.7778E-05
8	397	38	0.0360	2.5000E-03	0.0360	2.5000E-03	11.104	11.025	6.5789E-05
9	443	46	0.0400	4.0000E-03	0.0400	4.0000E-03	11.330	11.217	8.6957E-05
10	499	56	0.0450	5.0000E-03	0.0450	5.0000E-03	11.576	11.453	8.9286E-05
11	555	56	0.0500	5.0000E-03	0.0500	5.0000E-03	11.792	11.684	8.9286E-05
12	608	53	0.0560	6.0000E-03	0.0560	6.0000E-03	12.023	11.907	1.1321E-04
13	649	41	0.0610	5.0000E-03	0.0610	5.0000E-03	12.196	12.110	1.2195E-04
14	702	53	0.0699	8.9000E-03	0.0699	8.9000E-03	12.475	12.335	1.6792E-04
15	744	42	0.0730	3.1000E-03	0.0730	3.1000E-03	12.564	12.519	7.3810E-05
16	802	58	0.0840	1.1000E-02	0.0840	1.1000E-02	12.856	12.710	1.8966E-04
17	841	39	0.0880	4.0000E-03	0.0880	4.0000E-03	12.954	12.905	1.0256E-04
18	898	57	0.0980	1.0000E-02	0.0980	1.0000E-02	13.184	13.069	1.7544E-04
19	920	22	0.1013	3.3000E-03	0.1013	3.3000E-03	13.255	13.219	1.5000E-04
20	947	27	0.1093	8.0000E-03	0.1093	8.0000E-03	13.420	13.337	2.9680E-04

Table 76. K_{MAX} Vs dc/dn Calculations - AFCG-4 Flaw 2

TEST CASE ID-- AFCG-4 F2
OF CYCLE ENTRIES,M= 22 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 21.910
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3110
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	4		0.0154		0.0149		9.239		
2	30	26	0.0160	6.0000E-04	0.0155	6.0000E-04	9.350	9.294	2.3077E-05
3	74	44	0.0170	1.0000E-03	0.0165	1.0000E-03	9.525	9.437	2.2727E-05
4	150	76	0.0200	3.0000E-03	0.0195	3.0000E-03	9.985	9.755	3.9474E-05
5	212	62	0.0237	3.7000E-03	0.0232	3.7000E-03	10.449	10.217	5.9677E-05
6	253	41	0.0266	2.9000E-03	0.0261	2.9000E-03	10.753	10.601	7.0732E-05
7	305	52	0.0300	3.4000E-03	0.0295	3.4000E-03	11.058	10.905	6.5385E-05
8	359	54	0.0360	6.0000E-03	0.0355	6.0000E-03	11.499	11.279	1.1111E-04
9	397	38	0.0400	4.0000E-03	0.0395	4.0000E-03	11.743	11.621	1.0526E-04
10	443	46	0.0461	6.1000E-03	0.0456	6.1000E-03	12.061	11.902	1.3261E-04
11	499	56	0.0501	4.0000E-03	0.0496	4.0000E-03	12.243	12.152	7,1429E-05
12	555	56	0.0600	9.9000E-03	0.0595	9.9000E-03	12.630	12.436	1.7679E-04
13	601	46	0.0690	9.0000E-03	0.0685	9.0000E-03	12.927	12.779	1.9565E-04
14	649	48	0.0770	8.0000E-03	0.0765	8.0000E-03	13.163	13.045	1.6667E-04
15	702	53	0.0890	1.2000E-02	0.0885	1.2000E-02	13.478	13.320	2.2642E-04
16	762	60	0.1055	1.6500E-02	0.1050	1.6500E-02	13.857	13.667	2.7500E-04
17	802	40	0.1150	9.5000E-03	0.1145	9.5000E-03	14.052	13.954	2.3750E-04
18	841	39	0.1272	1.2200E-02	0.1267	1.2200E-02	14.284	14.168	3.1282E-04
19	859	18	0.1340	6.8000E-03	0.1335	6.8000E-03	14.405	14.345	3.7778E-04
20	876	17	0.1410	7.0000E-03	0.1405	7.0000E-03	14.524	14.465	4.1176E-04
21	898	22	0.1511	1.0100E-02	0.1506	1.0100E-02	14.687	14.605	4.5909E-04
22	920	22	0.1600	8.9000E-03	0.1595	8.9000E-03	14.822	14.754	4.04556-04

Table 77. K_{MAX} Vs dc/dn Calculations - AFCG-4 Flaw 3

TEST CASE ID-- AFCG-4 F3
OF CYCLE ENTRIES,M= 25 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 21.910
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3320
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	2		0.3750		0.0381		16.993		
2	30	28	0.3750	0.0000E+00	0.0478	9.7000E-03	17.768	17.380	3.4643E-04
3	74	44	0.3750	0.0000E+00	0.0640	1.6200E-02	18.716	18.242	3.6818E-04
4	150	76	0.3750	0.0000E+00	0.0985	3.4500E-02	20.117	19.417	4.5395E-04
5	212	62	0.3750	0.0000E+00	0.1329	3.4400E-02	21.138	20.628	5.5484E-04
6	253	41	0.3750	0.0000E+00	0.1570	2.4100E-02	21.723	21.431	5.8780E-04
7	305	52	0.3750	0.0000E+00	0.1915	3.4500E-02	22.430	22.076	6.6346E-04
8	359	54	0.3750	0.0000E+00	0.2320	4.0500E-02	23.124	22.777	7.5000E-04
9	397	38	0.3750	0.0000E+00	0.2630	3.1000E-02	23.590	23.357	8.1579E-04
10	443	46	0.3750	0.0000E+00	0.3025	3.9500E-02	24.135	23.863	8.5870E-04
11	479	36	0.3750	0.0000E+00	0.3364	3.3900E-02	24.575	24.355	9.4167E-04
12	499	20	0.3750	0.0000E+00	0.3565	2.0100E-02	24.830	24.703	1.0050E-03
13	521	22	0.3750	0.0000E+00	0.3785	2.2000E-02	25.106	24.968	1.0000E-03
14	555	34	0.3750	0.0000E+00	0.4185	4.0000E-02	25.607	25.357	1.1765E-03
15	578	23	0.3750	0.0000E+00	0.4440	2.5500E-02	25.927	25.767	1.1087E-03
16	601	23	0.3750	0.0000E+00	0.4730	2.9000E-02	26.296	26.112	1.2609E-03
17	621	20	0.3750	0.0000E+00	0.4975	2.4500E-02	26.612	26.454	1.2250E-03
18	649	28	0.3750	0.0000E+00	0.5365	3.9000E-02	27.126	26.869	1.3929E-03
19	670	21	0.3750	0.0000E+00	0.5660	2.9500E-02	27.525	27.325	1.4048E-03
20	702	32	0.3750	0.0000E+00	0.6135	4.7500E-02	28.188	27.856	1.4844E-03
21	722	20	0.3750	0.0000E+00	0.6455	3.2000E-02	28.651	28.420	1.6000E-03
22	744	22	0.3750	0.0000E+00	0.6813	3.5800E-02	29.186	28.919	1.6273E-03
23	762	18	0.3750	0.0000E+00	0.7120	3.0700E-02	29.661	29.423	1.7056E-03
24	779	17	0.3750	0.0000E+00	0.7432	3.1200E-02	30.158	29.909	1.8353E-03
25	802	23	0.3750	0.0000E+00	0.7824	3.9200E-02	30.808	30.483	1.7043E-03

Table 78. K_{MAX} Vs dc/dn Calculations - AFCG-4 Flaw 4

TEST CASE ID-- AFCG-4 F4
OF CYCLE ENTRIES,M= 27 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 21.910
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3540
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	5		0.3750		0.0346		16.971		
2	30	25	0.3750	0.0000E+00	0.0422	7.6000E-03	17.708	17.340	3.0400E-04
3	150	120	0.3750	0.0000E+00	0.0840	4.1800E-02	20.047	18.878	3.4833E-04
4	212	62	0.3750	0.0000E+00	0.1143	3.0300E-02	21.102	20.575	4.8871E-04
5	253	41	0.3750	0.0000E+00	0.1367	2.2400E-02	21.739	21.420	5.4634E-04
6	305	52	0.3750	0.0000E+00	0.1685	3.1800E-02	22.501	22.120	6.1154E-04
7	359	54	0.3750	0.0000E+00	0.2076	3.9100E-02	23.276	22.889	7.2407E-04
8	397	38	0.3750	0.0000E+00	0.2339	2.6300E-02	23.727	23.501	6.9211E-04
9	443	46	0.3750	0.0000E+00	0.2686	3.4700E-02	24.261	23.994	7.5435E-04
10	499	56	0.3750	0.0000E+00	0.3154	4.6800E-02	24.911	24.586	8.3571E-04
11	521	22	0.3750	0.0000E+00	0.3348	1.9400E-02	25.166	25.038	8.8182E-04
12	555	34	0.3750	0.0000E+00	0.3670	3.2200E-02	25.578	25.372	9.4706E-04
13	578	23	0.3750	0.0000E+00	0.3929	2.5900E-02	25.904	25.741	1.1261E-03
14	601	23	0.3750	0.0000E+00	0.4164	2.3500E-02	26.198	26.051	1.0217E-03
15	621	20	0.3750	0.0000E+00	0.4385	2.2100E-02	26.475	26.337	1.1050E-03
16	649	28	0.3750	0.0000E+00	0.4747	3.6200E-02	26.933	26.704	1.2929E-03
17	670	21	0.3750	0.0000E+00	0.5014	2.6700E-02	27.275	27.104	1.2714E-03
18	702	32	0.3750	0.0000E+00	0.5457	4.4300E-02	27.857	27.566	1.3844E-03
19	722	20	0.3750	0.0000E+00	0.5730	2.7300E-02	28.225	28.041	1.3650E-03
20	744	22	0.3750	0.0000E+00	0.6046	3.1600E-02	28.662	28.443	1.4364E-03
21	762	18	0.3750	0.0000E+00	0.6326	2.8000E-02	29.060	28.861	1.5556E-03
22	779	17	0.3750	0.0000E+00	0.6600	2.7400E-02	29.459	29.259	1.6118E-03
23	802	23	0.3750	0.0000E+00	0.6955	3.5500E-02	29.994	29.727	1.5435E-03
24	821	19	0.3750	0.0000E+00	0.7270	3.1500E-02	30.485	30.239	1.6579E-03
25	841	20	0.3750	0.0000E+00	0.7605	3.3500E-02	31.027	30.756	1.6750E-03
26	859	18	0.3750	0.0000E+00	0.7920	3.1500E-02	31.555	31.291	1.7500E-03
27	876	17	0.3750	0.0000E+00	0.8213	2.9300E-02	32.064	31.810	1.7235E-03

Table 79. K_{MAX} Vs d2c/dn Calculations - AFCG-4 Flaw 5

TEST CASE ID-- AFCG-4 F5
OF CYCLE ENTRIES,M= 20
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 10.0000

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 21.910
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.3750

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--| DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	2		0.3750		0.1100		12.884		
2	30	28	0.3750	0.0000E+00	0.1148	9.5000E-03	13.159	13.022	3.3929E-04
3	74	44	0.3750	0.0000E+00	0.1226	1.5700E-02	13.603	13.381	3.5682E-04
4	150	76	0.3750	0.0000E+00	0.1377	3.0200E-02	14.417	14.010	3.9737E-04
5	212	62	0.3750	0.0000E+00	0.1526	2.9700E-02	15.177	14.797	4.7903E-04
6	253	41	0.3750	0.0000E+00	0.1644	2.3600E-02	15.754	15.465	5.7561E-04
7	305	52	0.3750	0.0000E+00	0.1809	3.3000E-02	16.528	16.141	6.3462E-04
8	359	54	0.3750	0.0000E+00	0.2031	4.4500E-02	17.519	17.024	8.2407E-04
9	397	38	0.3750	0.0000E+00	0.2203	3.4300E-02	18.247	17.883	9.0263E-04
10	443	46	0.3750	0.0000E+00	0.2465	5.2500E-02	19.310	18.778	1.1413E-03
11	479	36	0.3750	0.0000E+00	0.2695	4.5900E-02	20.195	19.752	1.2750E-03
12	499	20	0.3750	0.0000E+00	0.2858	3.2600E-02	20.801	20.498	1.6300E-03
13	521	22	0.3750	0.0000E+00	0.3023	3.3000E-02	21.398	21.100	1.5000E-03
14	555	34	0.3750	0.0000E+00	0.3334	6.2200E-02	22.483	21.941	1.8294E-03
15	578	23	0.3750	0.0000E+00	0.3580	4.9300E-02	23.310	22.896	2.1435E-03
16	601	23	0.3750	0.0000E+00	0.3833	5.0500E-02	24.129	23.719	2.1957E-03
17	621	20	0.3750	0.0000E+00	0.4093	5.2100E-02	24.948	24.538	2.6050E-03
18	631	10	0.3750	0.0000E+00	0.4232	2.7800E-02	25.376	25.162	2.7800E-03
19	649	18	0.3750	0.0000E+00	0.4511	5.5700E-02	26.213	25.794	3.0944E-03
20	670	21	0.3750	0.0000E+00	0.4845	6.6900E-02	27.189	26.701	3.1857E-03

Table 80. K_{MAX} Vs dc/dn Calculations - AFCG-5 Flaw 1

TEST CASE ID-- AFCG-5 F1
OF CYCLE ENTRIES,M= 28
OF CRACKS IN HOLE,B= 1
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 4.0000
FASTENER/PLATE MODULAS RATIO,R= 0.000
CRACK TYPE CODE,E= 2
GROSS AREA STRESS,S= 10.000
HOLE DIAMETER,D= 0.2940
PANEL THICKNESS,T= 0.3750

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	2200		0.0200		0.0195		4.499		
2	4000	1800	0.0218	1.8000E-03	0.0213	1.8000E-03	4.603	4.551	1.0000E-06
3	5800	1800	0.0237	1.9000E-03	0.0232	1.9000E-03	4.702	4.652	1.0556E-06
4	10200	4400	0.0270	3.3000E-03	0.0265	3.3000E-03	4.851	4.776	7.5000E-07
5	13400	3200	0.0290	2.0000E-03	0.0285	2.0000E-03	4.930	4.891	6.2500E-07
6	14200	800	0.0300	1.0000E-03	0.0295	1.0000E-03	4.967	4.949	1.2500E-06
7	16000	1800	0.0315	1.5000E-03	0.0310	1.5000E-03	5.020	4.993	8.3333E-07
8	18000	2000	0.0330	1.5000E-03	0.0325	1.5000E-03	5.069	5.044	7.5000E-07
9	19600	1600	0.0348	1.8000E-03	0.0343	1.8000E-03	5.124	5.097	1.1250E-06
10	21800	2200	0.0360	1.2000E-03	0.0355	1.2000E-03	5.159	5.142	5.4545E-07
11	23600	1800	0.0380	2.0000E-03	0.0375	2.0000E-03	5.214	5.187	1.1111E-06
12	26000	2400	0.0406	2.6000E-03	0.0401	2.6000E-03	5.281	5.247	1.0833E-06
13	28400	2400	0.0430	2.4000E-03	0.0425	2.4000E-03	5.337	5.309	1.0000E-06
14	29800	1400	0.0454	2.4000E-03	0.0449	2.4000E-03	5.390	5.364	1.7143E-06
15	33200	3400	0.0488	3.4000E-03	0.0483	3.4000E-03	5.459	5.425	1.0000E-06
16	35800	2600	0.0523	3.5000E-03	0.0518	3.5000E-03	5.525	5.492	1.3462E-06
17	39000	3200	0.0610	8.7000E-03	0.0605	8.7000E-03	5.671	5.598	2.7188E-06
18	41000	2000	0.0647	3.7000E-03	0.0642	3.7000E-03	5.726	5.699	1.8500E-06
19	43200	2200	0.0710	6.3000E-03	0.0705	6.3000E-03	5.814	5.770	2.8636E-06
20	46200	3000	0.0816	1.0600E-02	0.0811	1.0600E-02	5.948	5.881	3.5333E-06
21	49200	3000	0.0930	1.1400E-02	0.0925	1.1400E-02	6.076	6.012	3.8000E-06
22	52400	3200	0.1100	1.7000E-02	0.1095	1.7000E-02	6.243	6.160	5.3125E-06
23	55200	2800	0.1320	2.2000E-02	0.1315	2.2000E-02	6.430	6.337	7.8571E-06
24	57200	2000	0.1420	1.0000E-02	0.1415	1.0000E-02	6.505	6.467	5.0000E-06
25	58800	1600	0.1550	1.3000E-02	0.1545	1.3000E-02	6.596	6.551	8.1250E-06
26	60800	2000	0.1735	1.8500E-02	0.1730	1.8500E-02	6.715	6.656	9.2500E-06
27	62800	2000	0.1930	1.9500E-02	0.1925	1.9500E-02	6.830	6.773	9.7500E-06
28	63800	1000	0.2040	1.1000E-02	0.2035	1.1000E-02	6.892	6.861	1.1000E-05

Table 81. K_{MAX} Vs dc/dn Calculations - AFCG-5 Flaw 2

TEST CASE ID-- AFCG-5 F2
OF CYCLE ENTRIES,M= 28 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 10.000
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3200
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	2200		0.0233		0.0235		4.782		
2	4000	1800	0.0227	-6.0000E-04	0.0229	-6.0000E-04	4.750	4.766	-3.3333E-07
3	5800	1800	0.0240	1.3000E-03	0.0242	1.3000E-03	4.818	4.784	7.2222E-07
4	10200	4400	0.0250	1.0000E-03	0.0252	1.0000E-03	4.868	4.843	2.2727E-07
5	13400	3200	0.0260	1.0000E-03	0.0262	1.0000E-03	4.915	4.892	3.1250E-07
6	14200	800	0.0270	1.0000E-03	0.0272	1.0000E-03	4.960	4.938	1.2500E-06
7	16000	1800	0.0288	1.8000E-03	0.0290	1.8000E-03	5.036	4.998	1.0000E-06
8	18000	2000	0.0310	2.2000E-03	0.0312	2.2000E-03	5.121	5.079	1.1000E-06
9	19600	1600	0.0330	2.0000E-03	0.0332	2.0000E-03	5.192	5.157	1.2500E-06
10	21800	2200	0.0370	4.0000E-03	0.0372	4.0000E-03	5.318	5.255	1.8182E-06
11	23600	1800	0.0400	3.0000E-03	0.0402	3.0000E-03	5.401	5.360	1.6667E-06
12	26000	2400	0.0450	5.0000E-03	0.0452	5.0000E-03	5.525	5.463	2.0833E-06
13	28400	2400	0.0496	4.6000E-03	0.0498	4.6000E-03	5.624	5.574	1.9167E-06
14	29800	1400	0.0534	3.8000E-03	0.0536	3.8000E-03	5.698	5.661	2.7143E-06
15	33200	3400	0.0610	7.6000E-03	0.0612	7.6000E-03	5.831	5.764	2.2353E-06
16	35800	2600	0.0680	7.0000E-03	0.0682	7.0000E-03	5.938	5.884	2.6923E-06
17	39000	3200	0.0800	1.2000E-02	0.0802	1.2000E-02	6.100	6.019	3.7500E-06
18	41000	2000	0.0890	9.0000E-03	0.0892	9.0000E-03	6.208	6.154	4.5000E-06
19	43200	2200	0.1024	1.3400E-02	0.1026	1.3400E-02	6.352	6.280	6.0909E-06
20	46200	3000	0.1200	1.7600E-02	0.1202	1.7600E-02	6.520	6.436	5.8667E-06
21	49200	3000	0.1430	2.3000E-02	0.1432	2.3000E-02	6.709	6.614	7.6667E-06
22	52400	3200	0.1720	2.9000E-02	0.1722	2.9000E-02	6.912	6.810	9.0625E-06
23	55200	2800	0.2000	2.8000E-02	0.2002	2.8000E-02	7.085	6.998	1.0000E-05
24	57200	2000	0.2200	2.0000E-02	0.2202	2.0000E-02	7.202	7.143	1.0000E-05
25	58800	1600	0.2380	1.8000E-02	0.2382	1.8000E-02	7.312	7.257	1.1250E-05
26	60800	2000	0.2603	2.2300E-02	0.2605	2.2300E-02	7.468	7.390	1.1150E-05
27	62800	2000	0.2839	2.3600E-02	0.2841	2.3600E-02	7.694	7.581	1.1800E-05
28	63800	1000	0.2950	1.1100E-02	0.2952	1.1100E-02	7.839	7.766	1.1100E-05

Table 82. K_{MAX} Vs dc/dn Calculations - AFCG-5 Flaw 3

TEST CASE ID-- AFCG-5 F3
OF CYCLE ENTRIES,M= 21 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 10.000
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3230
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(DJC/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	2200		0.3750		0.0010		1.884		
2	4000	1800	0.3750	0.0000E+00	0.0138	1.2800E-02	5.866	3.875	7.1111E-06
3	5800	1800	0.3750	0.0000E+00	0.0280	1.4200E-02	7.183	6.524	7.8889E-06
4	8400	2600	0.3750	0.0000E+00	0.0526	2.4600E-02	8.176	7.679	9.4615E-06
5	14200	5800	0.3750	0.0000E+00	0.1122	5.9600E-02	9.290	8.733	1.0276E-05
6	16000	1800	0.3750	0.0000E+00	0.1320	1.9800E-02	9.542	9.416	1.1000E-05
7	18000	2000	0.3750	0.0000E+00	0.1570	2.5000E-02	9.815	9.676	1.2500E-05
8	19600	1600	0.3750	0.0000E+00	0.1790	2.2000E-02	10.024	9.920	1.3750E-05
9	21800	2200	0.3750	0.0000E+00	0.2100	3.1000E-02	10.282	10.153	1.4091E-05
10	23600	1800	0.3750	0.0000E+00	0.2380	2.8000E-02	10.487	10.384	1.5556E-05
11	26000	2400	0.3750	0.0000E+00	0.2780	4.0000E-02	10.750	10.618	1.6667E-05
12	28400	2400	0.3750	0.0000E+00	0.3220	4.4000E-02	11.016	10.883	1.8333E-05
13	31000	2600	0.3750	0.0000E+00	0.3770	5.5000E-02	11.334	11.175	2.1154E-05
14	33200	2200	0.3750	0.0000E+00	0.4276	5.0600E-02	11.623	11.478	2.3000E-05
15	34400	1200	0.3750	0.0000E+00	0.4566	2.9000E-02	11.791	11.707	2.4167E-05
16	35800	1400	0.3750	0.0000E+00	0.4930	3.6400E-02	12.004	11.897	2.6000E-05
17	38600	2800	0.3750	0.0000E+00	0.5740	8.1000E-02	12.500	12.252	2.8929E-05
18	39000	400	0.3750	0.0000E+00	0.5863	1.2300E-02	12.578	12.539	3.0750E-05
19	41000	2000	0.3750	0.0000E+00	0.6510	6.4700E-02	13.004	12.791	3.2350E-05
20	41400	400	0.3750	0.0000E+00	0.6660	1.5000E-02	13.106	13.055	3.7500E 05
21	43200	1800	0.3750	0.0000E+00	0.7324	6.6400E-02	13.577	13.341	3.6899E 05

Table 83. K_{MAX} Vs dc/dn Calculations - AFCG-5 Flaw 4

TEST CASE ID--- AFCG-5 F4
OF CYCLE ENTRIES,M= 17 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 10.000
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3224
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM CROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	2200		0.3750		0.0441		7.910		
2	4000	1800	0.3750	0.0000E+00	0.0561	1.2000E-02	8.265	8.087	6.6667E-06
3	5800	1800	0.3750	0.0000E+00	0.0701	1.4000E-02	8.586	8.426	7.7778E-06
4	8400	2600	0.3750	0.0000E+00	0.0931	2.3000E-02	9.002	8.794	8.8462E-06
5	14200	5800	0.3750	0.0000E+00	0.1586	6.5500E-02	9.825	9.413	1.1293E-05
6	16000	1800	0.3750	0.0000E+00	0.1825	2.3900E-02	10.048	9.936	1.3278E-05
7	18000	2000	0.3750	0.0000E+00	0.2131	3.0600E-02	10.298	10.173	1.5300E-05
8	19600	1600	0.3750	0.0000E+00	0.2421	2.9000E-02	10.508	10.403	1.8125E-05
9	21800	2200	0.3750	0.0000E+00	0.2801	3.8000E-02	10.756	10.632	1.7273E-05
10	23600	1800	0.3750	0.0000E+00	0.3211	4.1000E-02	11.003	10.880	2.2778E-05
11	26000	2400	0.3750	0.0000E+00	0.3731	5.2000E-02	11.304	11.154	2.1667E-05
12	28400	2400	0.3750	0.0000E+00	0.4317	5.8600E-02	11.639	11.471	2.4417E-05
13	31000	2600	0.3750	0.0000E+00	0.5054	7.3700E-02	12.071	11.855	2.8346E-05
14	33200	2200	0.3750	0.0000E+00	0.5775	7.2100E-02	12.515	12.293	3.2773E-05
15	34400	1200	0.3750	0.0000E+00	0.6221	4.4600E-02	12.803	12.659	3.7167E-05
16	35800	1400	0.3750	0.0000E+00	0.6771	5.5000E-02	13.175	12.989	3.9286E-05
17	38600	2800	0.3750	0.0000E+00	0.8038	1.2670E-01	14.114	13.645	4.5250E-05

Table 84. K_{MAX} Vs d2c/dn Calculations - AFCG-5 Flaw 5

TEST CASE ID-- AFCG-5 F5
OF CYCLE ENTRIES,M= 18
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 10.0000

CRACK TYPE CODE,E= 1
GROSS AREA STRESS, = 10.000
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.3750

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	5800		0.3750		0.1060		5.771		
2	8400	2600	0.3750	0.0000E+00	0.1135	1.5100E-02	5.973	5.872	5.8077E-06
3	14200	5800	0.3750	0.0000E+00	0.1325	3.8000E-02	6.455	6.214	6.5517E-06
4	16000	1800	0.3750	0.0000E+00	0.1390	1.3000E-02	6.611	6.533	7.2222E-06
5	18000	2000	0.3750	0.0000E+00	0.1480	1.8000E-02	6.822	6.717	9.0000E-06
6	19600	1600	0.3750	0.0000E+00	0.1565	1.7000E-02	7.016	6.919	1.0625E-05
7	21800	2200	0.3750	0.0000E+00	0.1695	2.6000E-02	7.302	7.159	1.1818E-05
8	23600	1800	0.3750	0.0000E+00	0.1820	2.5000E-02	7.568	7.435	1.3889E-05
9	26000	2400	0.3750	0.0000E+00	0.2015	3.9000E-02	7.964	7.766	1.6250E-05
10	28400	2400	0.3750	0.0000E+00	0.2260	4.9000E-02	8.437	8.201	2.0417E-05
11	31000	2600	0.3750	0.0000E+00	0.2590	6.6000E-02	9.035	8.736	2.5385E-05
12	32000	1000	0.3750	0.0000E+00	0.2920	6.6000E-02	9.598	9.317	6.6000E-05
13	34400	2400	0.3750	0.0000E+00	0.3130	4.2000E-02	9.940	9.769	1.7500E-05
14	35800	1400	0.3750	0.0000E+00	0.3410	5.6000E-02	10.380	10.160	4.0000E-05
15	38600	2800	0.3750	0.0000E+00	0.4050	1.2790E-01	11.325	10.853	4.5679E-05
16	39000	400	0.3750	0.0000E+00	0.4150	2.0100E-02	11.467	11.396	5.0250E-05
17	41000	2000	0.3750	0.0000E+00	0.4761	1.2220E-01	12.299	11.883	6.1100E-05
18	41400	400	0.3750	0.0000E+00	0.4917	3.1200E-02	12.503	12.401	7.8000E-05

Table 85. K_{MAX} Vs dc/dn Calculations - AFCG-6 Flaw 1

TEST CASE ID-- AFCG-6 F1
OF CYCLE ENTRIES,M= 31 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 8.500
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3824
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	339		0.0264		0.0260		4.055		
2	601	262	0.0260	-4.0000E-04	0.0256	-4.0000E-04	4.040	4.047	-1.5267E-06
3	905	304	0.0280	2.0000E-03	0.0276	2.0000E-03	4.109	4.075	6.5789E-06
4	1215	310	0.0316	3.6000E-03	0.0312	3.6000E-03	4.217	4.163	1.1613E-05
5	1709	494	0.0400	8.4000E-03	0.0396	8.4000E-03	4.417	4.317	1.7004E-05
6	1817	108	0.0420	2.0000E-03	0.0416	2.0000E-03	4.457	4.437	1.8519E-05
7	2352	535	0.0512	9.2000E-03	0.0508	9.2000E-03	4.615	4.536	1.7196E-05
8	2720	368	0.0590	7.8000E-03	0.0586	7.8000E-03	4.726	4.671	2.1196E-05
9	3058	338	0.0660	7.0000E-03	0.0656	7.0000E-03	4.815	4.771	2.0710E-05
10	3436	378	0.0760	1.0000E-02	0.0756	1.0000E-02	4.927	4.871	2.6455E-05
11	3706	270	0.0831	7.1000E-03	0.0827	7.1000E-03	4.999	4.963	2.6296E-05
12	3907	201	0.0878	4.7000E-03	0.0874	4.7000E-03	5.044	5.022	2.3383E-05
13	4311	404	0.1010	1.3200E-02	0.1006	1.3200E-02	5.160	5.102	3.2673E-05
14	4518	207	0.1086	7.6000E-03	0.1082	7.6000E-03	5.221	5.190	3.6715E-05
15	4943	425	0.1263	1.7700E-02	0.1259	1.7700E-02	5.349	5.285	4.1647E-05
16	5345	402	0.1420	1.5700E-02	0.1416	1.5700E-02	5.450	5.399	3.9055E-05
17	5732	387	0.1580	1.6000E-02	0.1576	1.6000E-02	5.542	5.496	4.1344E-05
18	6325	593	0.1851	2.7100E-02	0.1847	2.7100E-02	5.682	5.612	4.5700E-05
19	6750	425	0.2048	1.9700E-02	0.2044	1.9700E-02	5.775	5.729	4.6353E-05
20	6997	247	0.2170	1.2200E-02	0.2166	1.2200E-02	5.832	5.804	4.9393E-05
21	7302	305	0.2324	1.5400E-02	0.2320	1.5400E-02	5.905	5.869	5.0492E-05

Table 85. K_{MAX} Vs dc/dn Calculations - AFCG-6 Flaw 1 (Continued)

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
22	7876	574	0.2616	2.9200E-02	0.2612	2.9200E-02	6.067	5.986	5.0871E-05
23	8083	207	0.2730	1.1400E-02	0.2726	1.1400E-02	6.148	6.108	5.5072E-05
24	8213	130	0.2800	7.0000E-03	0.2796	7.0000E-03	6.205	6.177	5.3846E-05
25	8604	391	0.3040	2.4000E-02	0.3036	2.4000E-02	6.476	6.341	6.1381E-05
26	9075	471	0.3360	3.2000E-02	0.3356	3.2000E-02	7.165	6.821	6.7941E-05
27	9243	168	0.3480	1.2000E-(		76	1.2000E-02	7.595	7.380	7.1429E-05
28	9608	365	0.3790	3.1000E-(		86	3.1000E-02	9.497	8.546	8.4932E-05
29	9839	231	0.3990	2.0000E-(		86	2.0000E-02	11.701	10.599	8.6580E-05
30	10243	404	0.4370	3.8000E-(		66	3.8000E-02	19.881	15.791	9.4059E-05
31	10316	73	0.4451	8.1000E-(		47	8.1000E-03	32.665	21.279	1.1096E-04

Table 86. K_{MAX} Vs dc/dn Calculations - AFCG-6 Flaw 2

TEST CASE ID-- AFCG-6 F2
OF CYCLE ENTRIES,M= 31 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 8.500
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3824
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D3C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	Avg KMAX	DC/DN
1	339		0.0075		0.0061		2.723		
2	601	262	0.0069	-6.0000E-04	0.0055	-6.0000E-04	2.629	2.676	-2.2901E-06
3	905	304	0.0075	6.0000E-04	0.0061	6.0000E-04	2.723	2.676	1.9737E-06
4	1215	310	0.0069	-6.0000E-04	0.0055	-6.0000E-04	2.629	2.676	-1.9355E-06
5	1709	494	0.0070	1.0000E-04	0.0056	1.0000E-04	2.645	2.637	2.0243E-07
6	1817	108	0.0072	2.0000E-04	0.0058	2.0000E-04	2.677	2.661	1.8519E-06
7	2352	535	0.0090	1.8000E-03	0.0076	1.8000E-03	2.931	2.804	3.3645E-06
8	2720	368	0.0110	2.0000E-03	0.0096	2.0000E-03	3.159	3.045	5.4348E-06
9	3058	338	0.0130	2.0000E-03	0.0116	2.0000E-03	3.346	3.253	5.9172E-06
10	3436	378	0.0160	3.0000E-03	0.0146	3.0000E-03	3.574	3.460	7.9365E-06
11	3706	270	0.0190	3.0000E-03	0.0176	3.0000E-03	3.756	3.665	1.1111E-05
12	3907	201	0.0210	2.0000E-03	0.0196	2.0000E-03	3.858	3.807	9.9502E-06
13	4311	404	0.0250	4.0000E-03	0.0236	4.0000E-03	4.028	3.943	9.9010E-06
14	4518	207	0.0280	3.0000E-03	0.0269	3.3000E-03	4.126	4.077	1.5942E-05
15	4943	425	0.0332	5.2000E-03	0.0318	4.9000E-03	4.284	4.205	1.1529E-05
16	5345	402	0.0377	4.5000E-03	0.0363	4.5000E-03	4.391	4.338	1.1194E-05
17	5732	387	0.0410	3.3000E-03	0.0396	3.3000E-03	4.460	4.425	8.5271E-06
18	6325	593	0.0480	7.0000E-03	0.0466	7.0000E-03	4.585	4.522	1.1804E-05

Table 86. K_{MAX} Vs dc/dn Calculations - AFCG-6 Flaw 2 (Continued)

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
19	6750	425	0.0540	6.0000E-03	0.0526	6.0000E-03	4.676	4.631	1.4118E-05
20	6997	247	0.0570	3.0000E-03	0.0556	3.0000E-03	4.718	4.697	1.2146E-05
21	7302	305	0.0628	5.8000E-03	0.0614	5.8000E-03	4.793	4.756	1.9016E-05
22	7876	574	0.0730	1.0200E-02	0.0716	1.0200E-02	4.910	4.852	1.7770E-05
23	8083	207	0.0770	4.0000E-03	0.0756	4.0000E-03	4.953	4.931	1.9324E-05
24	8213	130	0.0807	3.7000E-03	0.0793	3.7000E-03	4.990	4.971	2.8426E-05
25	8604	391	0.0884	7.7000E-03	0.0870	7.7000E-03	5.063	5.026	1.9696E-05
26	9075	471	0.1020	1.3600E-02	0.1006	1.3600E-02	5.180	5.122	2.8875E-05
27	9243	168	0.1070	5.0000E-03	0.1056	5.0000E-03	5.220	5.200	2.9762E-05
28	9608	365	0.1171	1.0100E-02	0.1157	1.0100E-02	5.295	5.258	2.7671E-05
29	9839	231	0.1253	8.2000E-03	0.1239	8.2000E-03	5.352	5.324	3.5498E-05
30	10243	404	0.1411	1.5800E-02	0.1397	1.5800E-02	5.454	5.403	3.9109E-05
31	10316	73	0.1430	1.9000E-03	0.1416	1.9000E-03	5.465	5.459	2.6027E-05

Table 87. K_{MAX} Vs dc/dn Calculations - AFCG-6 Flaw 3

TEST CASE ID-- AFCG-6 F3
OF CYCLE ENTRIES,M= 25 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 8.500
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3130
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	339		0.3750		0.0418		6.591		
2	601	262	0.3750	0.0000E+00	0.0510	9.2000E-03	6.838	6.714	3.5115E-05
3	905	304	0.3750	0.0000E+00	0.0615	1.0500E-02	7.065	6.951	3.4539E-05
4	1215	310	0.3750	0.0000E+00	0.0740	1.2500E-02	7.288	7.177	4.0323E-05
5	1709	494	0.3750	0.0000E+00	0.0940	2.0000E-02	7.583	7.436	4.0486E-05
6	1817	108	0.3750	0.0000E+00	0.0980	4.0000E-03	7.635	7.609	3.7037E-05
7	2352	535	0.3750	0.0000E+00	0.1219	2.3900E-02	7.915	7.775	4.4673E-05
8	2720	368	0.3750	0.0000E+00	0.1381	1.6200E-02	8.078	7.996	4.4022E-05
9	3058	338	0.3750	0.0000E+00	0.1570	1.8900E-02	8.247	8.163	5.5917E-05
10	3436	378	0.3750	0.0000E+00	0.1803	2.3300E-02	8.432	8.339	6.1640E-05
11	3706	270	0.3750	0.0000E+00	0.2000	1.9700E-02	8.571	8.501	7.2963E-05
12	3907	201	0.3750	0.0000E+00	0.2130	1.3000E-02	8.656	8.613	6.4677E-05
13	4311	404	0.3750	0.0000E+00	0.2450	3.2000E-02	8.848	8.752	7.9208E-05
14	4518	207	0.3750	0.0000E+00	0.2620	1.7000E-02	8.943	8.896	8.2126E-05
15	4943	425	0.3750	0.0000E+00	0.2980	3.6000E-02	9.133	9.038	8.4706E-05
16	5345	402	0.3750	0.0000E+00	0.3350	3.7000E-02	9.318	9.225	9.2040E-05
17	5732	387	0.3750	0.0000E+00	0.3720	3.7000E-02	9.498	9.408	9.5607E-05
18	6325	593	0.3750	0.0000E+00	0.4310	5.9000E-02	9.786	9.642	9.9494E-05
19	6750	425	0.3750	0.0000E+00	0.4750	4.4000E-02	10.004	9.895	1.0353E-04
20	6997	247	0.3750	0.0000E+00	0.5015	2.6500E-02	10.138	10.071	1.0729E-04
21	7302	305	0.3750	0.0000E+00	0.5408	3.9300E-02	10.342	10.240	1.2885E-04
22	7876	574	0.3750	0.0000E+00	0.6300	8.9200E-02	10.829	10.586	1.5540E-04
23	8083	207	0.3750	0.0000E+00	0.6670	3.7000E-02	11.043	10.936	1.7874E-04
24	8213	130	0.3750	0.0000E+00	0.6890	2.2000E-02	11.173	11.108	1.69236 04
25	8604	391	0.3750	0.0000E+00	0.7654	7.6400E-02	11.649	11.411	1.9540E 04

Table 88. K_{MAX} Vs dc/dn Calculations - AFCG-6 Flaw 4

TEST CASE ID-- AFCG-6 F4
OF CYCLE ENTRIES,M= 27 CRACK TYPE CODE,E= 2
OF CRACKS IN HOLE,B= 1 GROSS AREA STRESS,S= 8.500
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.3150
PANEL WIDTH,W= 4.0000 PANEL THICKNESS,T= 0.3750
FASTENER/PLATE MODULAS RATIO,R= 0.000

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	DC	KMAX	AVG KMAX	DC/DN
1	339		0.3750		0.0341		6.337		
2	601	262	0.3750	0.0000E+00	0.0394	5.3000E-03	6.528	6.433	2.0229E-05
3	905	304	0.3750	0.0000E+00	0.0476	8.2000E-03	6.768	6.648	2.6974E-05
4	1215	310	0.3750	0.0000E+00	0.0576	1.0000E-02	7.001	6.884	3.2258E-05
5	1709	494	0.3750	0.0000E+00	0.0791	2.1500E-02	7.386	7.194	4.3522E-05
6	1817	108	0.3750	0.0000E+00	0.0836	4.5000E-03	7.454	7.420	4.1667E-05
7	2352	535	0.3750	0.0000E+00	0.1101	2.6500E-02	7.801	7.628	4.9533E-05
8	2720	368	0.3750	0.0000E+00	0.1286	1.8500E-02	8.003	7.902	5.0272E-05
9	3058	338	0.3750	0.0000E+00	0.1471	1.8500E-02	8.180	8.091	5.4734E-05
10	3436	378	0.3750	0.0000E+00	0.1676	2.0500E-02	8.354	8.267	5.4233E-05
11	3706	270	0.3750	0.0000E+00	0.1846	1.7000E-02	8.483	8.418	6.2963E-05
12	3907	201	0.3750	0.0000E+00	0.1949	1.0300E-02	8.556	8.520	5.1244E-05
13	4311	404	0.3750	0.0000E+00	0.2206	2.5700E-02	8.725	8.640	6.3614E-05
14	4518	207	0.3750	0.0000E+00	0.2346	1.4000E-02	8.809	8.767	6.7633E-05
15	4943	425	0.3750	0.0000E+00	0.2626	2.8000E-02	8.968	8.889	6.5882E-05
16	5345	402	0.3750	0.0000E+00	0.2916	2.9000E-02	9.122	9.045	7.2139E-05
17	5732	387	0.3750	0.0000E+00	0.3226	3.1000E-02	9.279	9.200	8.0103E-05
18	6325	593	0.3750	0.0000E+00	0.3766	5.4000E-02	9.543	9.411	9.1062E-05
19	6750	425	0.3750	0.0000E+00	0.4216	4.5000E-02	9.762	9.652	1.0588E-04
20	6997	247	0.3750	0.0000E+00	0.4506	2.9000E-02	9.904	9.833	1.1741E-04
21	7302	305	0.3750	0.0000E+00	0.4896	3.9000E-02	10.100	10.002	1.2787E-04
22	7876	574	0.3750	0.0000E+00	0.5752	8.5600E-02	10.547	10.323	1.4913E-04
23	8083	207	0.3750	0.0000E+00	0.6066	3.1400E-02	10.719	10.633	1.5169E-04
24	8213	130	0.3750	0.0000E+00	0.6275	2.0900E-02	10.836	10.777	1.6077E-04
25	8604	391	0.3750	0.0000E+00	0.6987	7.1200E-02	11.252	11.044	1.8218E-04
26	9075	471	0.3750	0.0000E+00	0.7766	7.7900E-02	11.742	11.497	1.6534E-04
27	9243	168	0.3750	0.0000E+00	0.8206	4.4000E-02	12.037	11.889	2.6198E-04

Table 89. K_{MAX} Vs d2c/dn Calculations - AFCG-6 Flaw 5

TEST CASE ID-- AFCG-6 F5
OF CYCLE ENTRIES,M= 24 CRACK TYPE CODE,E= 1
OF CRACKS IN HOLE,B= 0 GROSS AREA STRESS,S= 8.500
FASTENER LOAD,P= 0.000 HOLE DIAMETER,D= 0.0000
PANEL WIDTH,W= 10.0000 PANEL THICKNESS,T= 0.3750

NOTES:
E=1,FOR SURFACE OR THROUGH THICKNESS CRACK
E=2,FOR CORNER CRACK(S), UNIFORM GROSS AREA STRESS
E=3,FOR CORNER CRACK(S),FASTENER LOAD ONLY
E=4,COMBINED LOAD CASE OF E=2 AND E=3
B=0,SURFACE OR THROUGH CRACK CONFIGURATION--(D2C/DN)
B=1,SINGLE CRACK WITHIN THE FASTENER HOLE--(DC/DN)
B=2,TWO CRACKS WITHIN THE FASTENER HOLE--(D2C/DN)
A=DEPTH OF SURFACE CRACK OR CORNER CRACK(S)--T DIRECTION
C=HALF LENGTH OF SURFACE CRACK OR LENGTH OF CORNER CRACK(S)
FILLED HOLE CORRECTIONS APPLIED ONLY IF E=2

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2D/DN
1	339		0.3750		0.1074		4.939		
2	601	262	0.3750	0.0000E+00	0.1115	8.2000E-03	5.032	4.986	3.1298E-05
3	905	304	0.3750	0.0000E+00	0.1167	1.0300E-02	5.147	5.090	3.3882E-05
4	1215	310	0.3750	0.0000E+00	0.1220	1.0700E-02	5.264	5.206	3.4516E-05
5	1709	494	0.3750	0.0000E+00	0.1312	1.8300E-02	5.458	5.361	3.7045E-05
6	1817	108	0.3750	0.0000E+00	0.1339	5.4000E-03	5.514	5.486	5.0000E-05
7	2352	535	0.3750	0.0000E+00	0.1450	2.2300E-02	5.740	5.627	4.1682E-05
8	2720	368	0.3750	0.0000E+00	0.1530	1.5900E-02	5.895	5.818	4.3207E-05
9	3058	338	0.3750	0.0000E+00	0.1610	1.6100E-02	6.049	5.972	4.7633E-05
10	3436	378	0.3750	0.0000E+00	0.1718	2.1600E-02	6.249	6.149	5.7143E-05
11	3706	270	0.3750	0.0000E+00	0.1795	1.5400E-02	6.388	6.319	5.7037E-05
12	3907	201	0.3750	0.0000E+00	0.1855	1.2000E-02	6.494	6.441	5.9701E-05
13	4311	404	0.3750	0.0000E+00	0.1990	2.7000E-02	6.727	6.611	6.6832E-05
14	4518	207	0.3750	0.0000E+00	0.2070	1.6000E-02	6.862	6.795	7.7295E-05
15	4943	425	0.3750	0.0000E+00	0.2239	3.3700E-02	7.137	6.999	7.9294E-05
16	5345	402	0.3750	0.0000E+00	0.2422	3.6600E-02	7.424	7.281	9.1045E-05
17	5732	387	0.3750	0.0000E+00	0.2615	3.8700E-02	7.717	7.571	1.0000E-04
18	6325	593	0.3750	0.0000E+00	0.2995	7.6000E-02	8.263	7.990	1.2816E-04
19	6750	425	0.3750	0.0000E+00	0.3320	6.5000E-02	8.705	8.484	1.5294E-04
20	6997	247	0.3750	0.0000E+00	0.3535	4.3000E-02	8.985	8.845	1.7409E-04
21	7302	305	0.3750	0.0000E+00	0.3835	6.0000E-02	9.364	9.175	1.9672E-04
22	7876	574	0.3750	0.0000E+00	0.4500	1.3300E-01	10.157	9.761	2.3171E-04
23	8083	207	0.3750	0.0000E+00	0.4785	5.6900E-02	10.480	10.319	2.7488E-04
24	8213	130	0.3750	0.0000E+00	0.4973	3.7600E-02	10.689	10.585	2.8918E-04

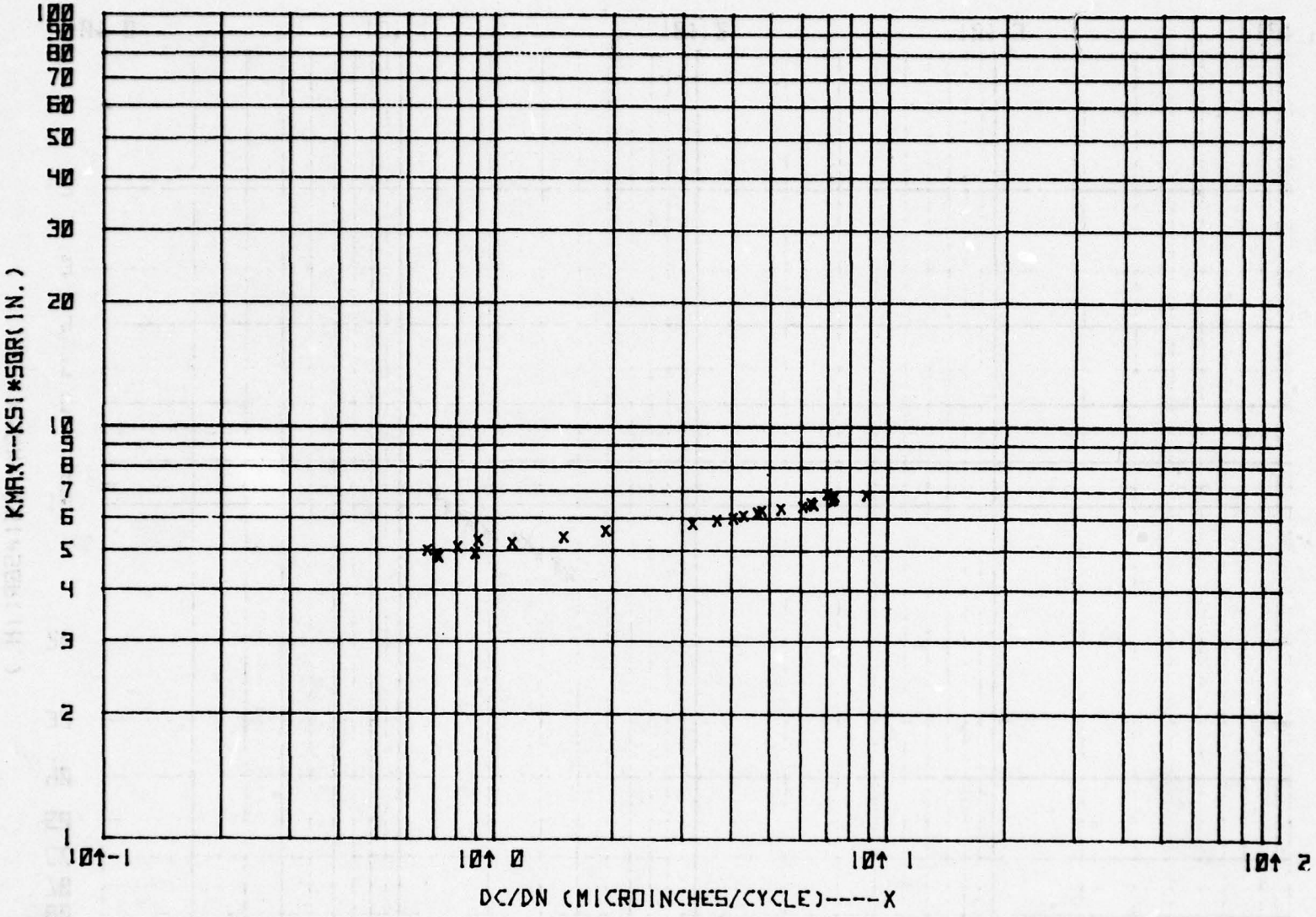

Figure 45. K_{MAX} Vs dc/dn Plot - AFCG-1 Flaw 2

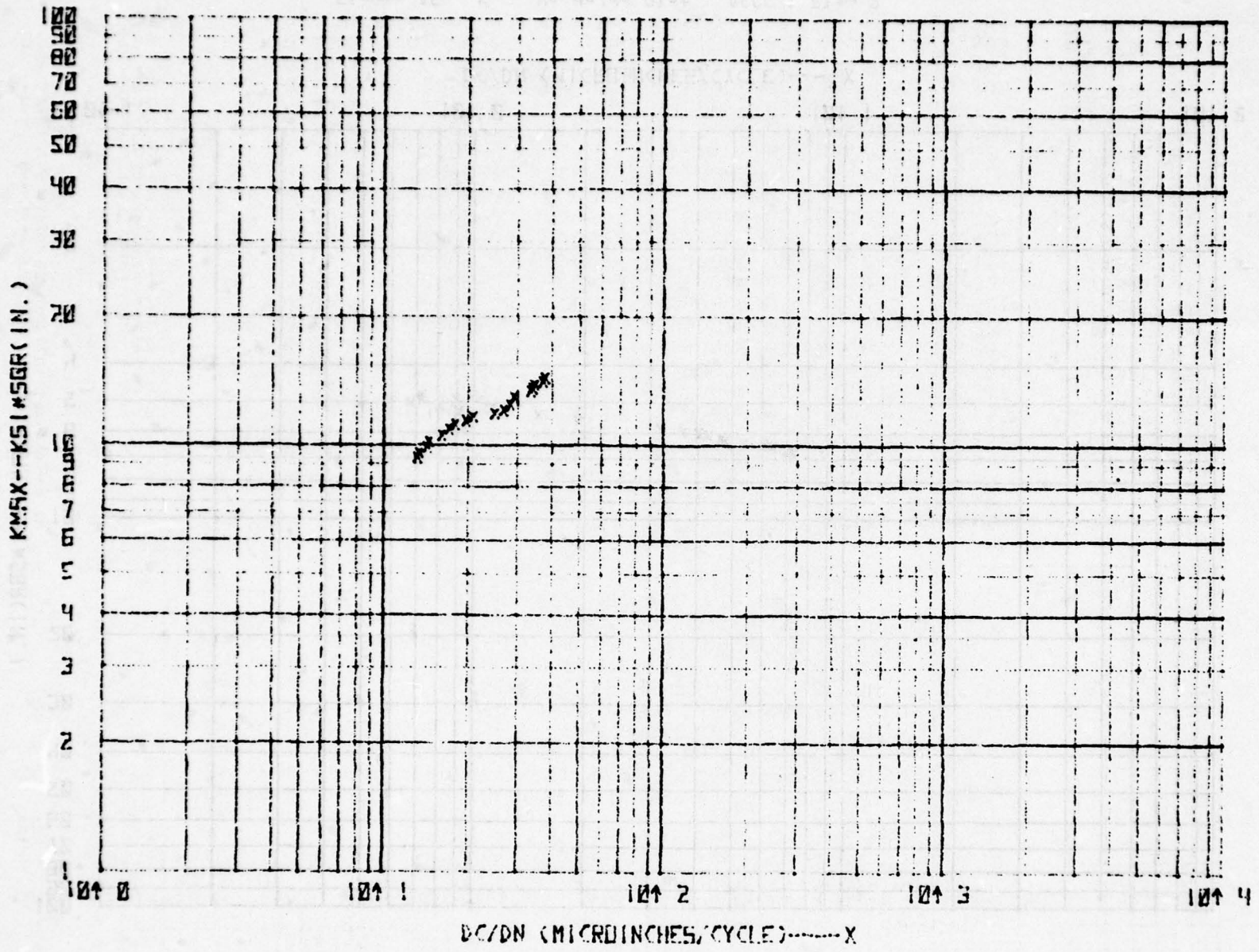

Figure 46. K_{MAX} Vs dc/dn Plot - AFCG-1 Flaw 3

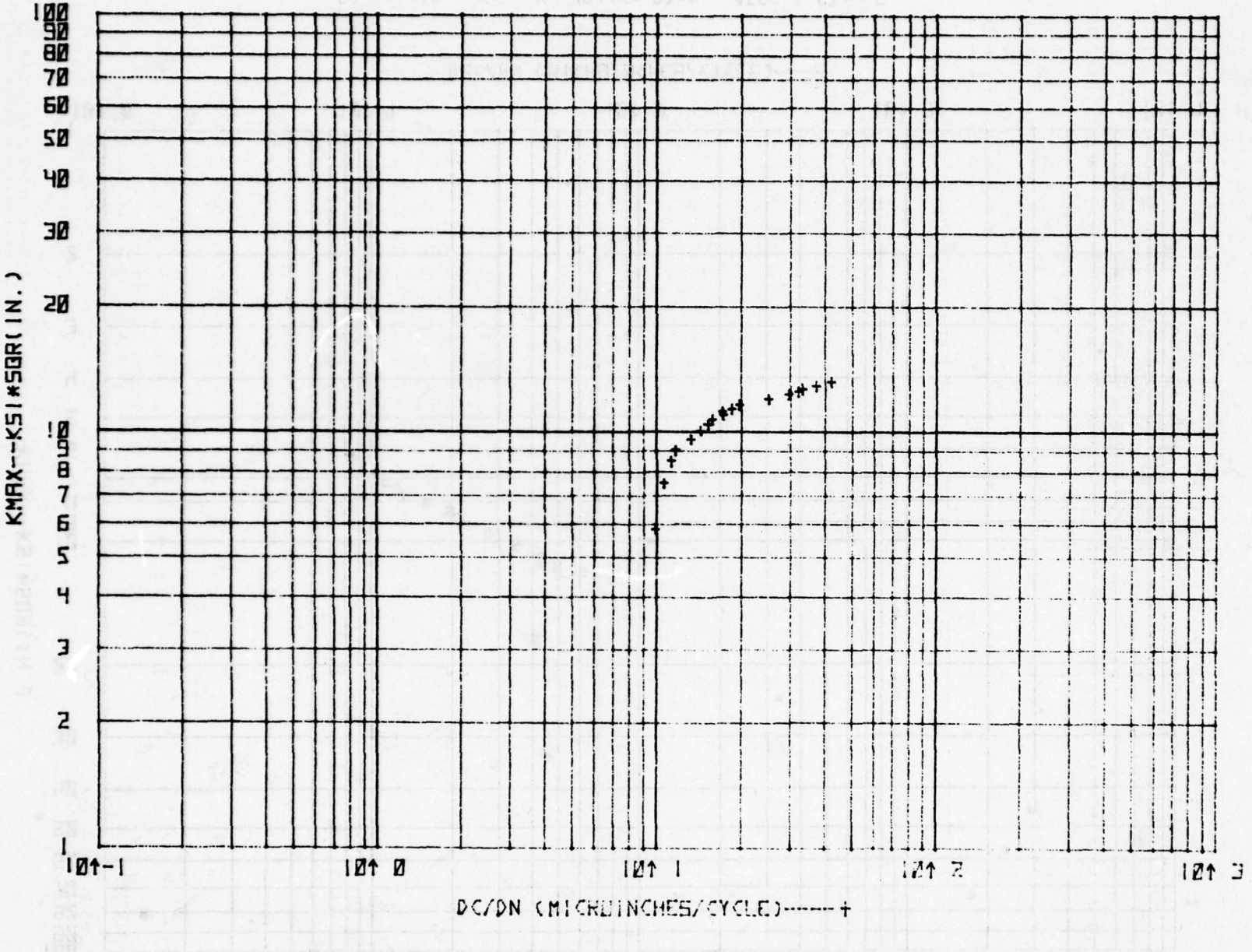

Figure 47. K_{MAX} Vs dc/dn Plot - AFCG-1 Flaw 4

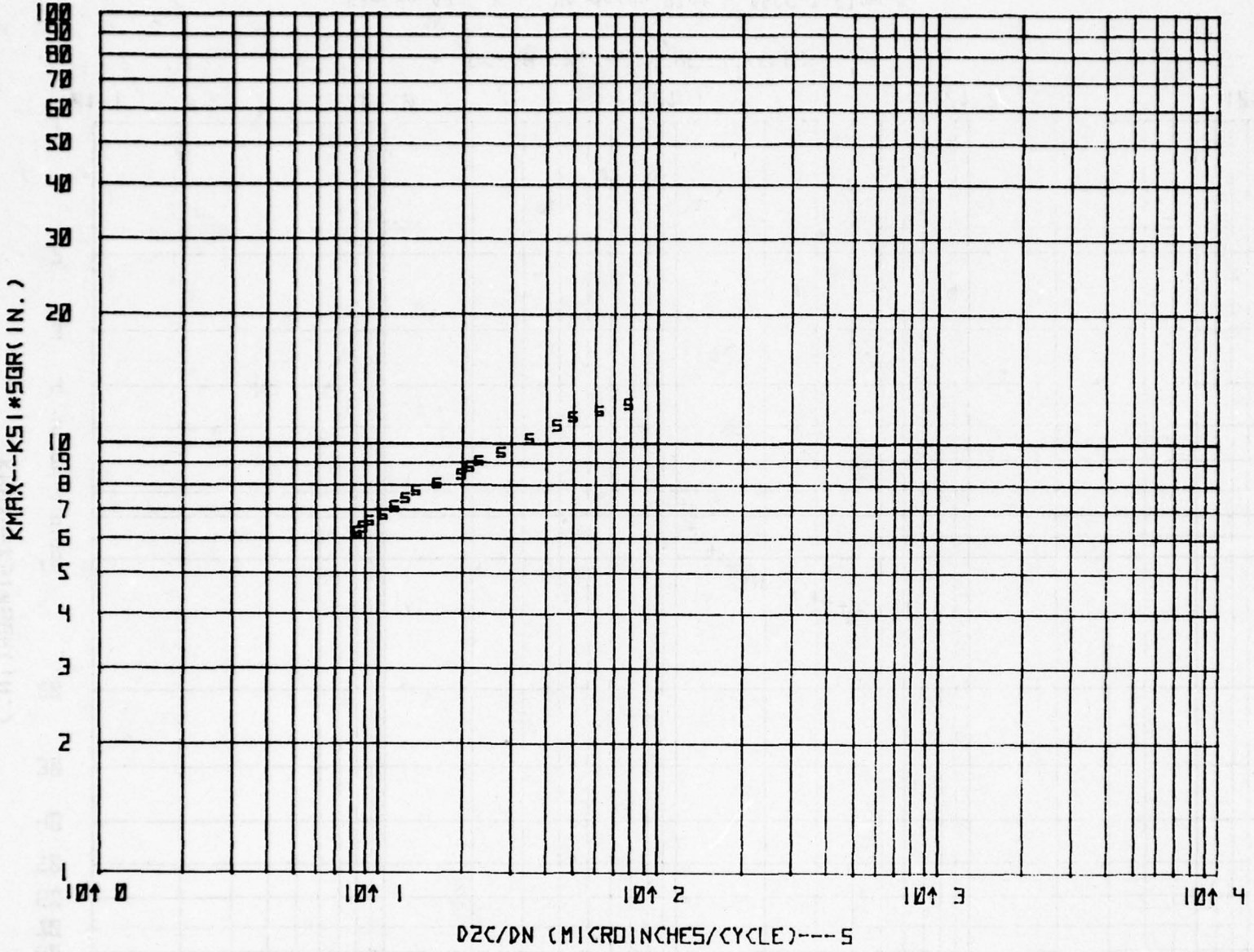

Figure 48. K_{MAX} Vs d2c/dn Plot - AFCG-1 Flaw 5

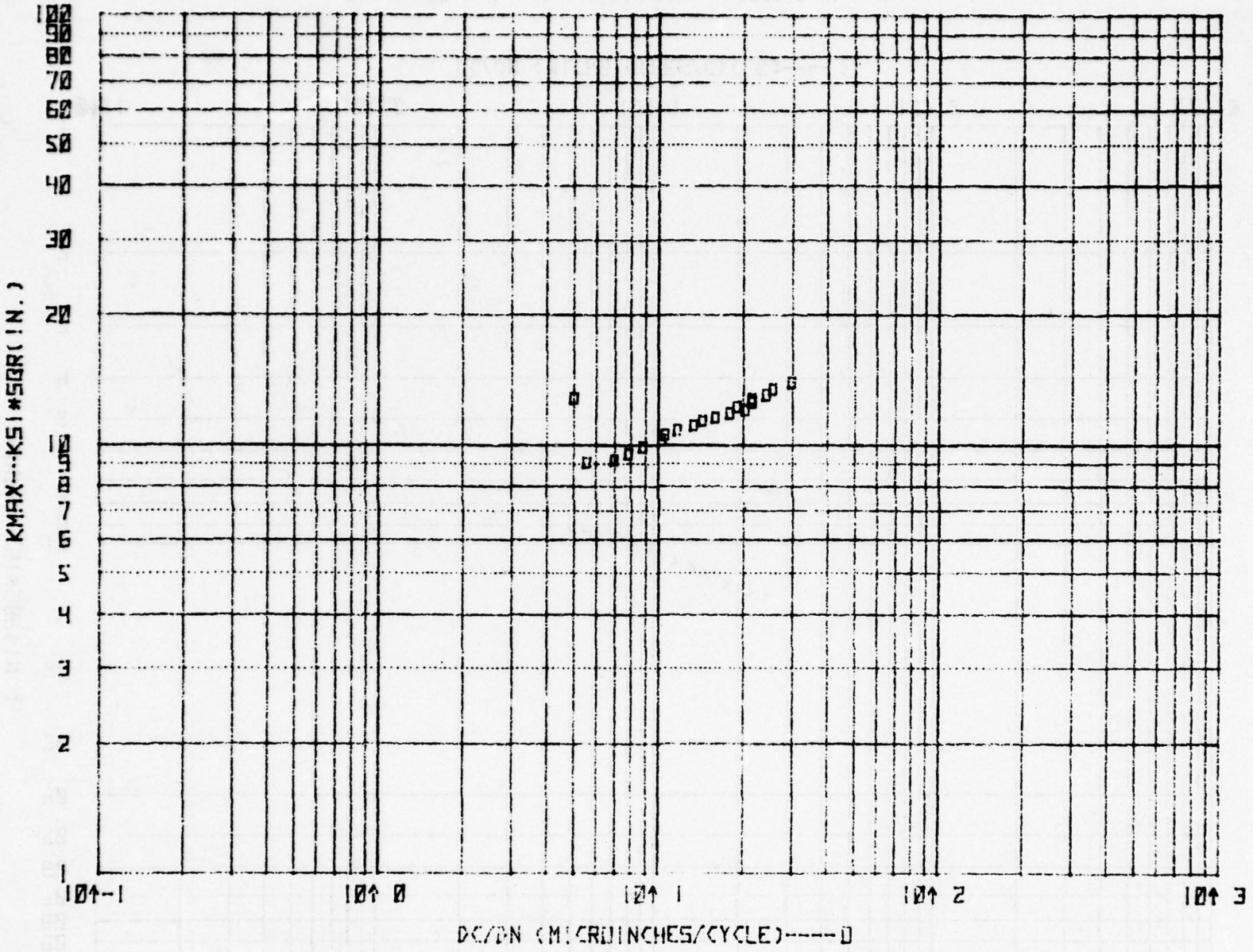

Figure 49. K_{MAX} Vs dc/dn Plot - AFCG-2 Flaw 3

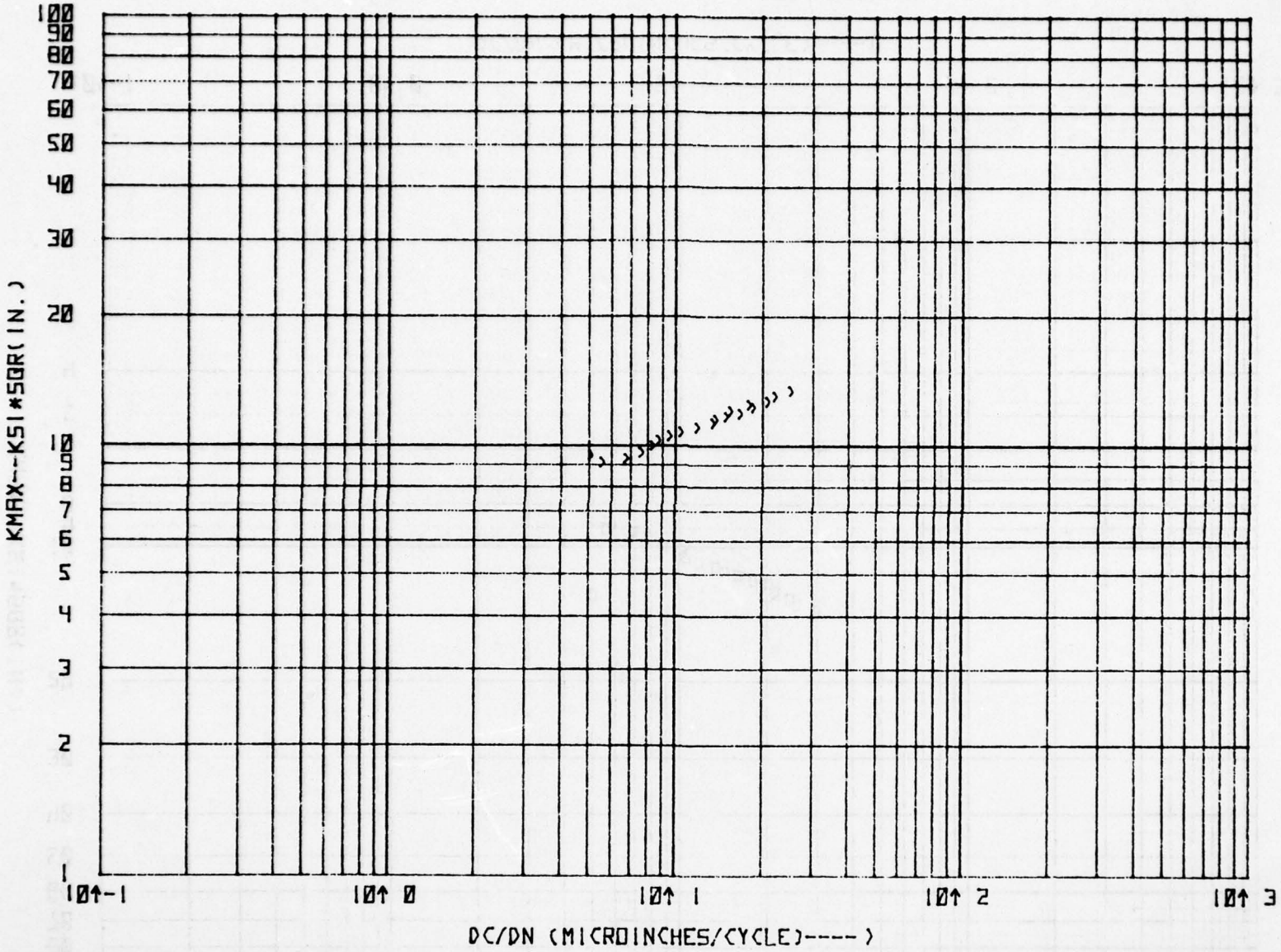

Figure 50. K_{MAX} Vs dc/dn Plot - AFCG-2 Flaw 4

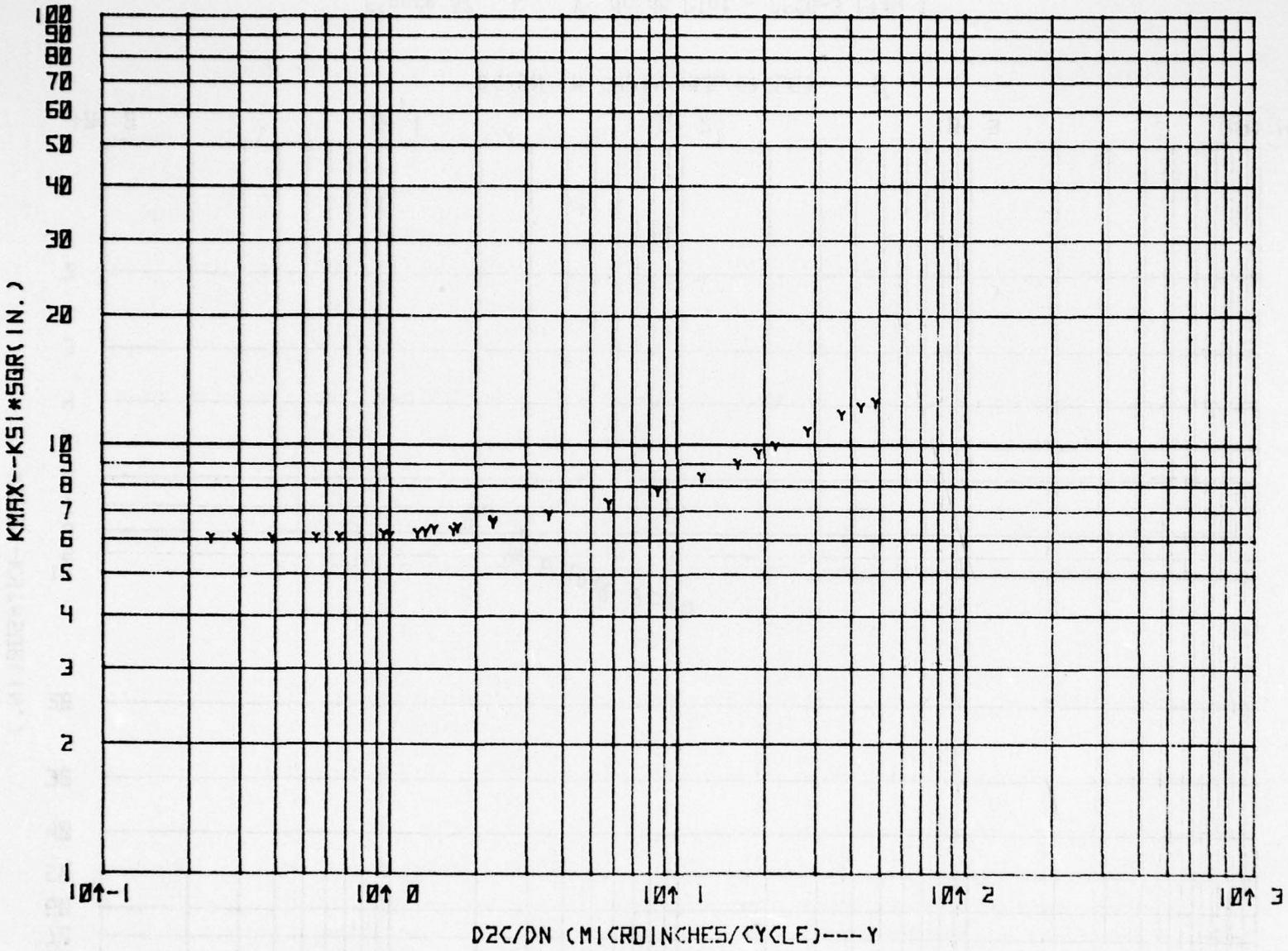

Figure 51. K_{MAX} Vs d2c/dn Plot - AFCG-2 Flaw 5

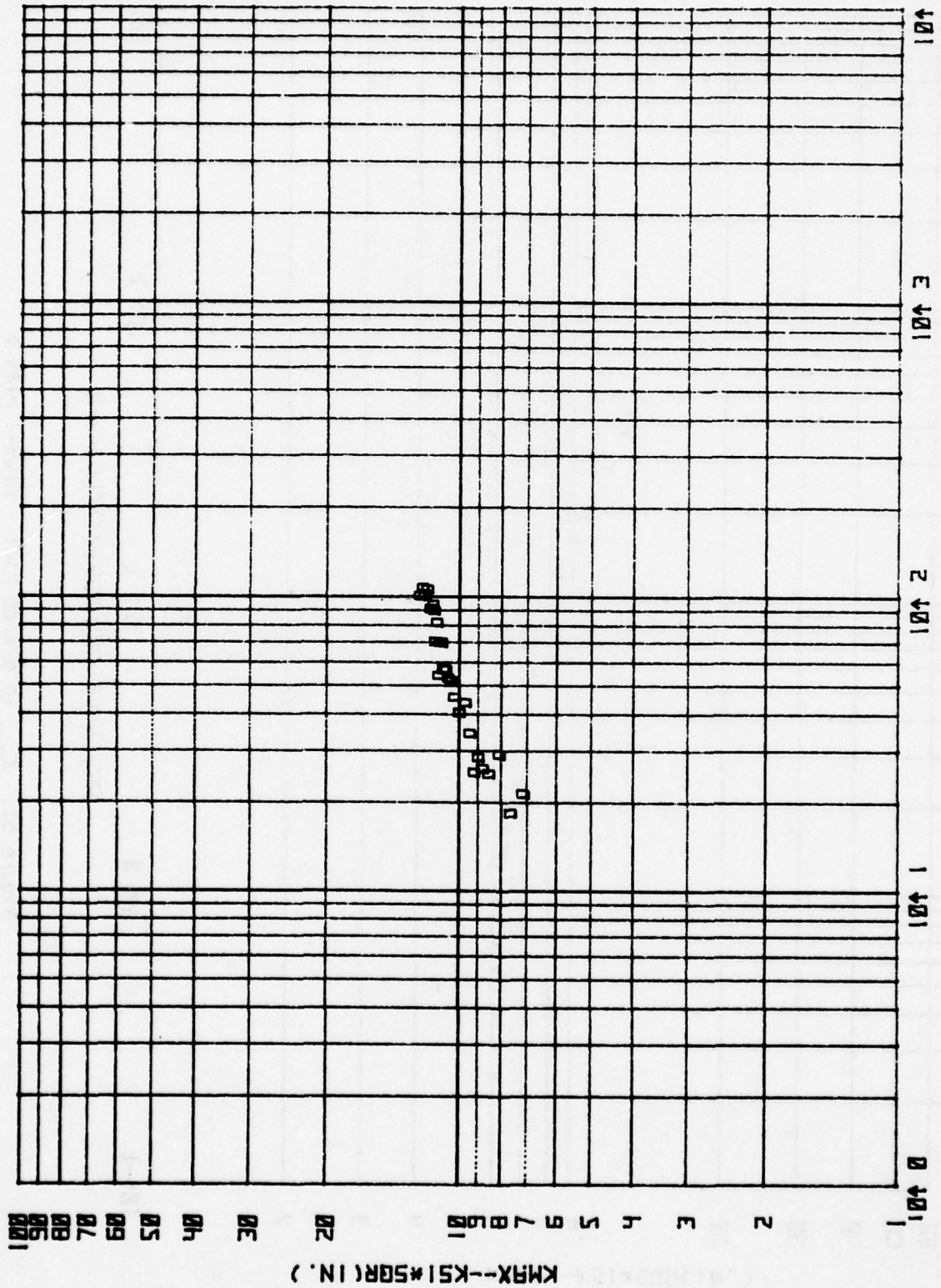

Figure 52. K_{MAX} Vs dc/dn Plot - AFCG-3 Flaw 1

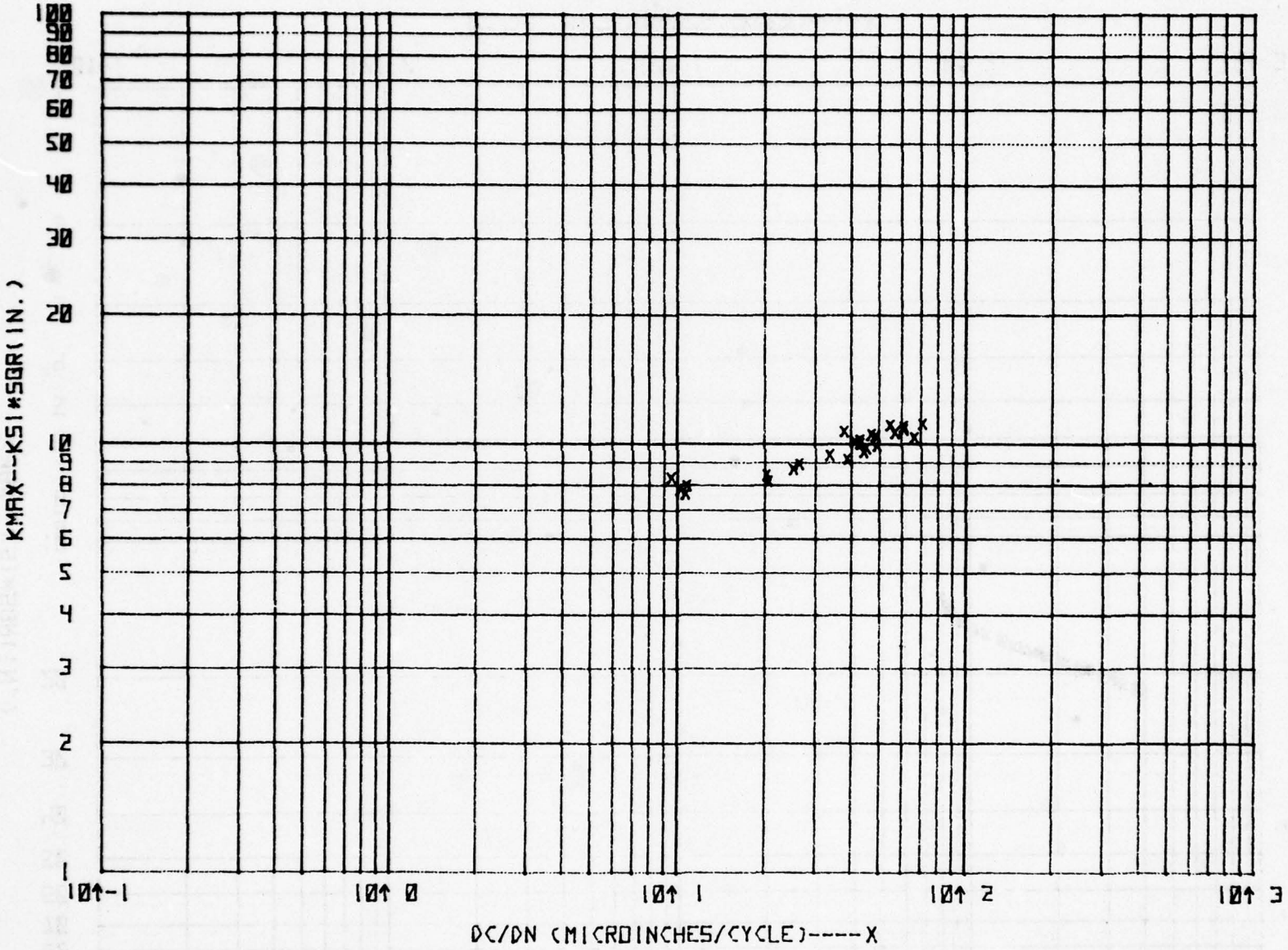

Figure 53. K_{MAX} Vs dc/dn Plot - AFCG-3 Flaw 2

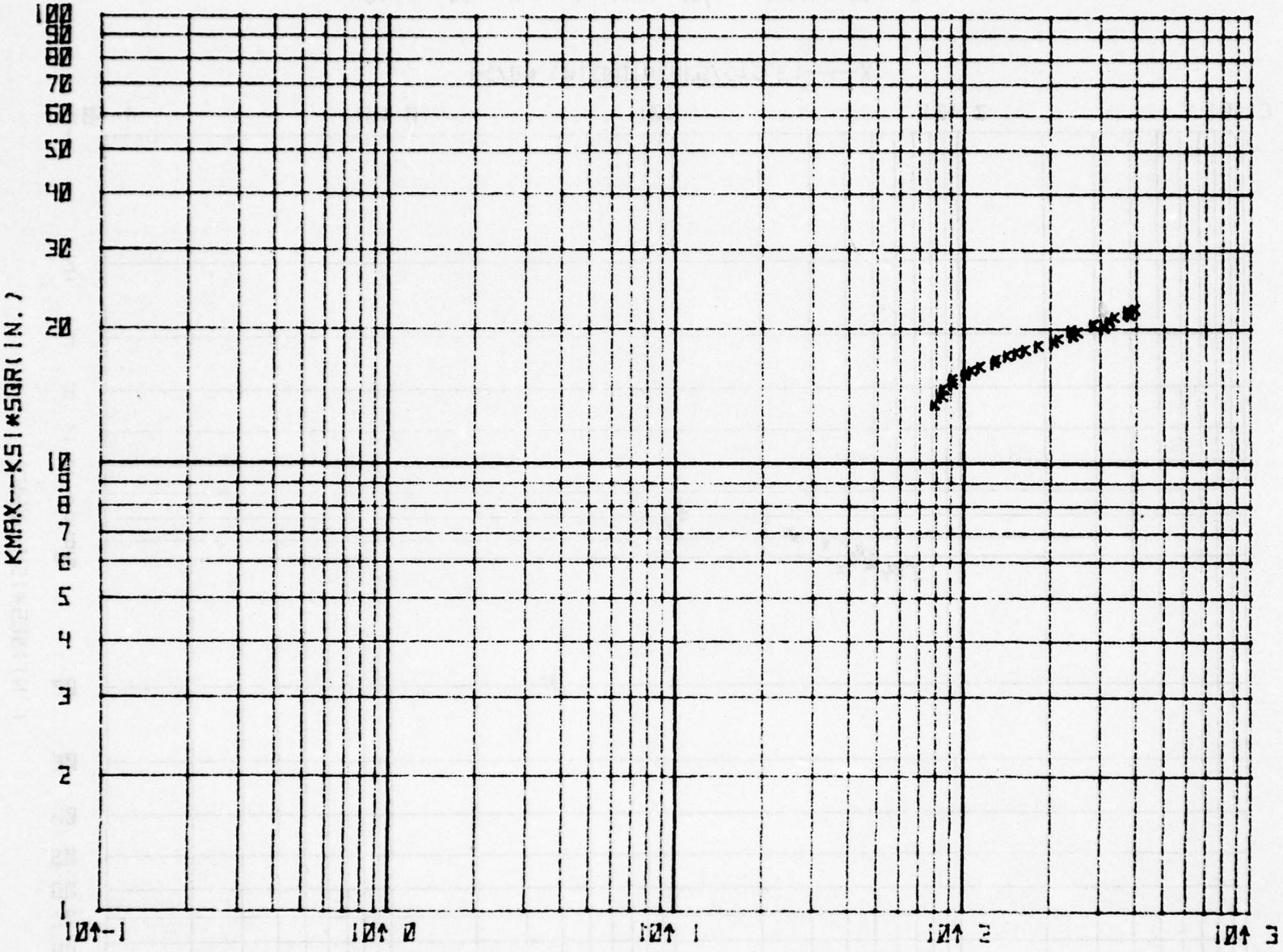

Figure 54. K_{MAX} Vs dc/dn Plot - AFCG-3 Flaw 3

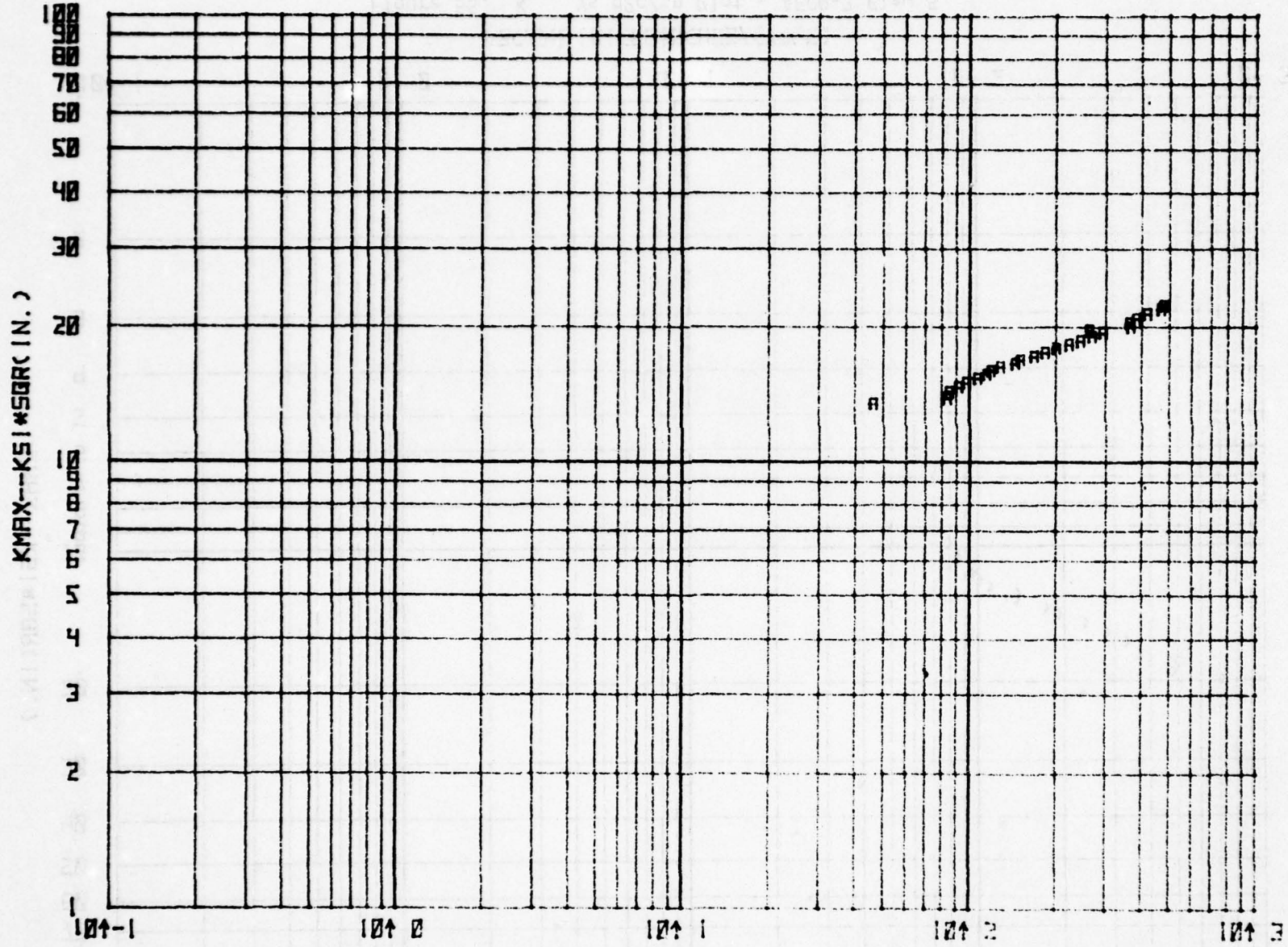

Figure 55. K_{MAX} Vs dc/dn Plot - AFCG-3 Flaw 4

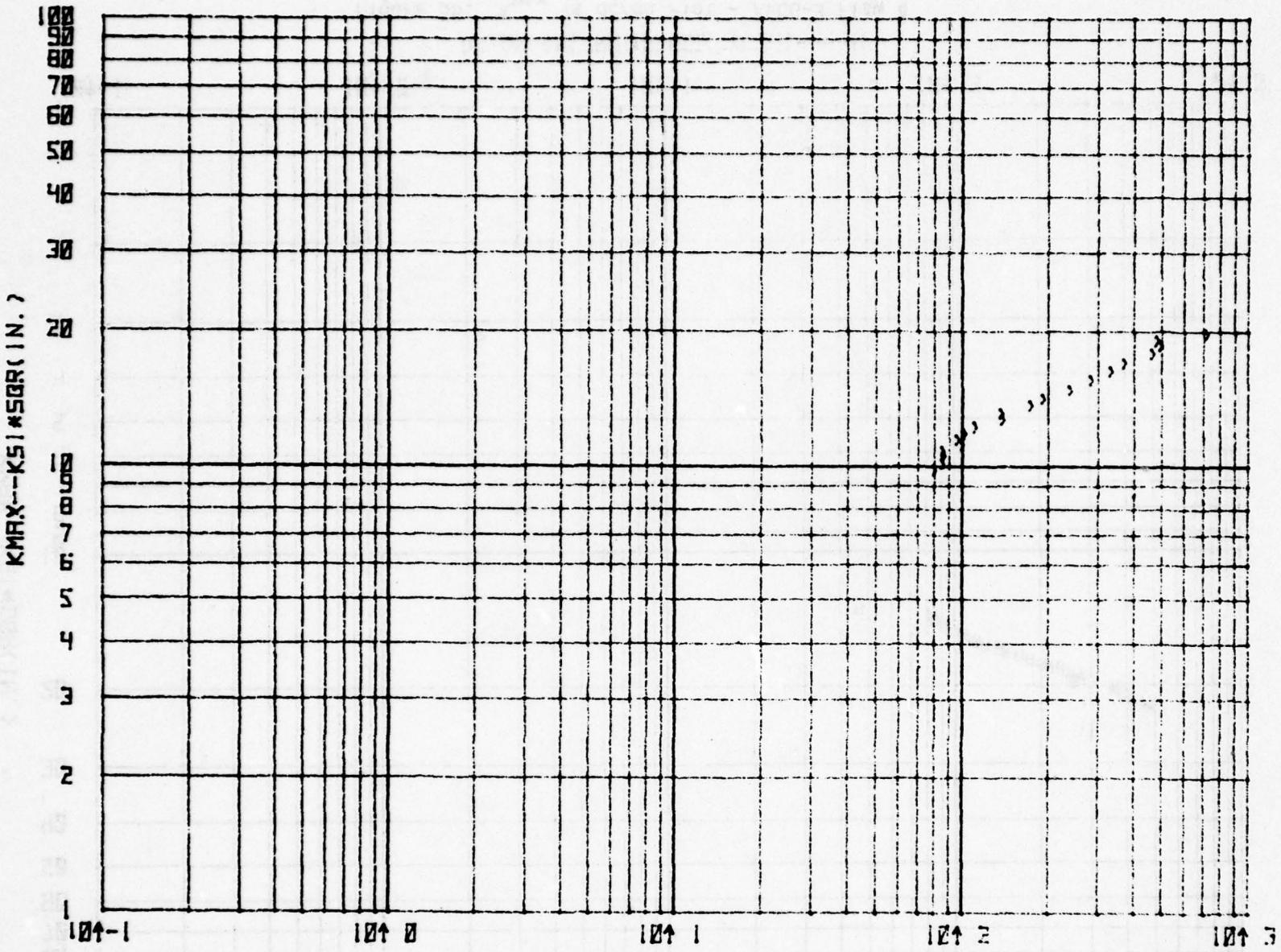

Figure 56. K_{MAX} Vs d2c/dn Plot - AFCG-3 Flaw 5

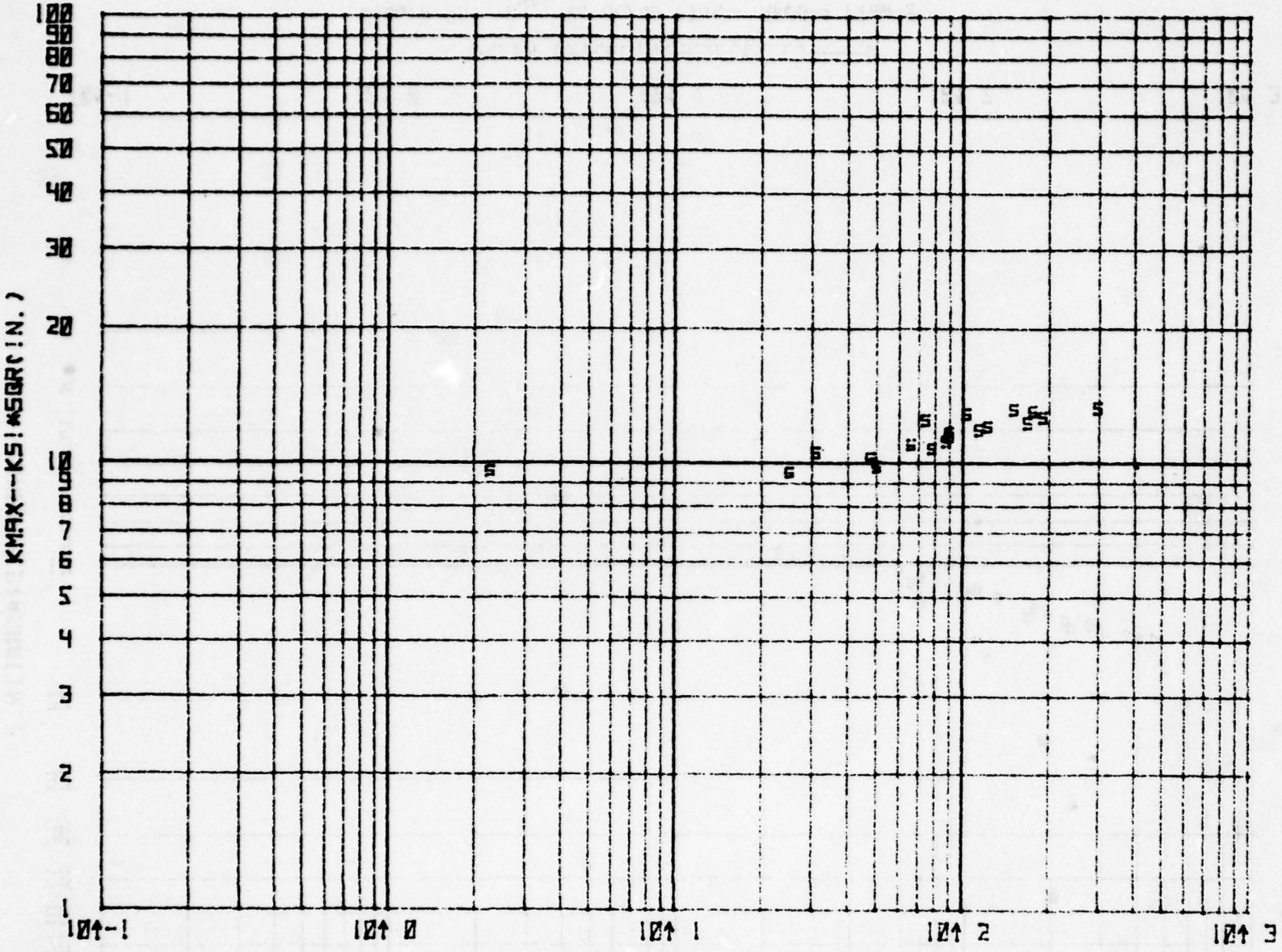

Figure 57. K_{MAX} Vs dc/dn Plot - AFCG-4 Flaw 1

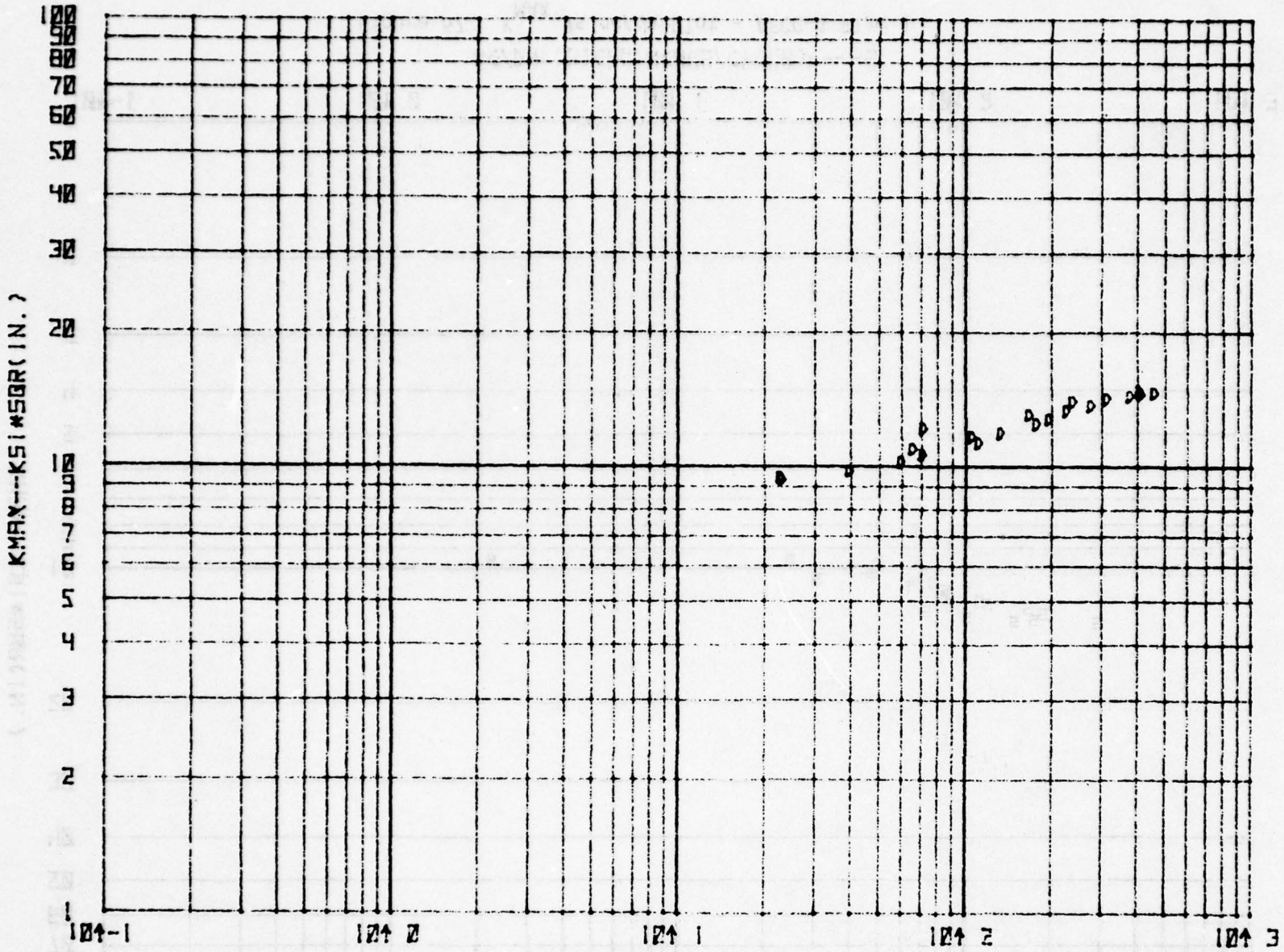

Figure 58. K_{MAX} Vs dc/dn Plot - AFCG-4 Flaw 2

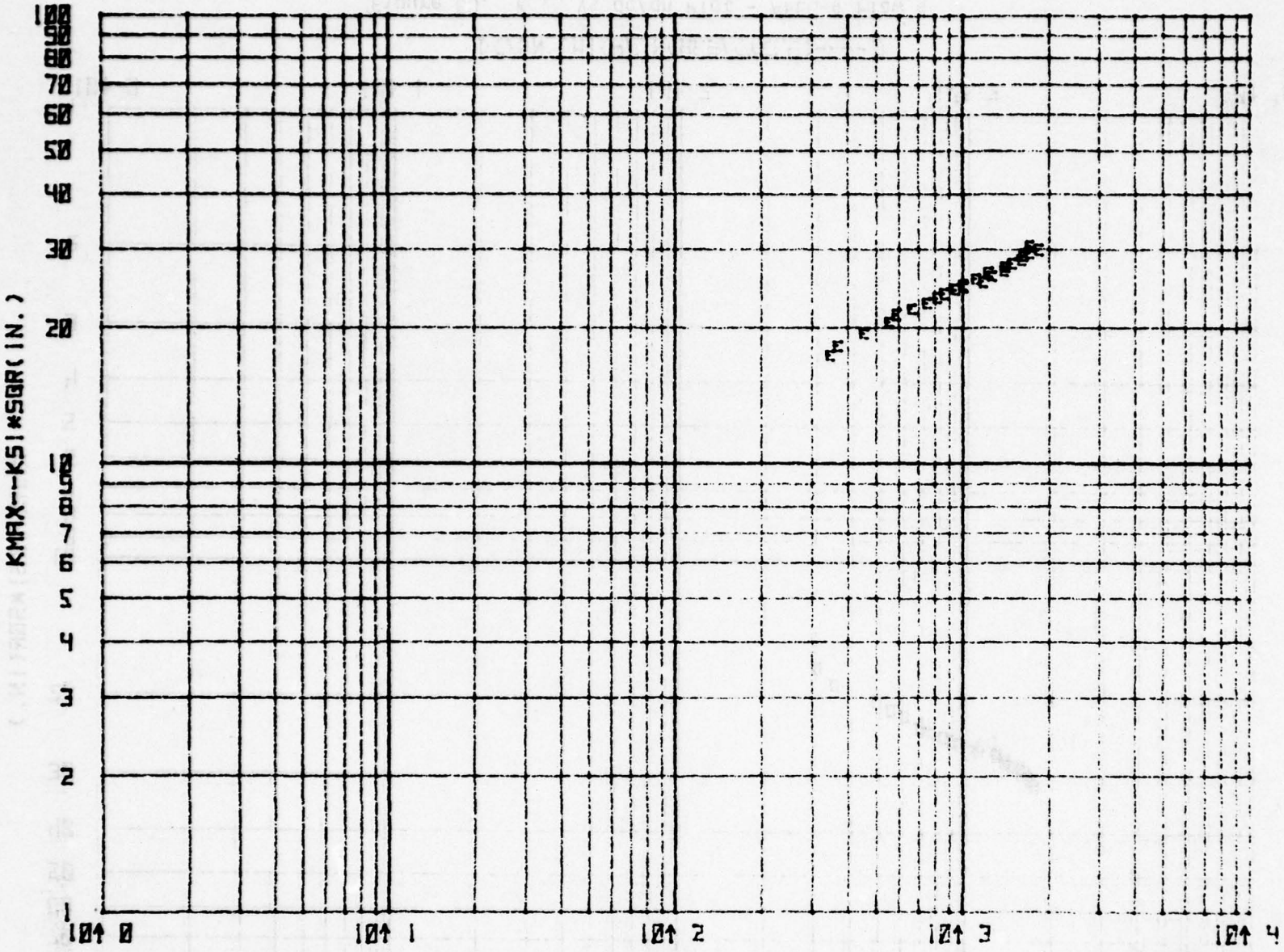

Figure 59. K_{MAX} Vs dc/dn Plot - AFCG-4 Flaw 3

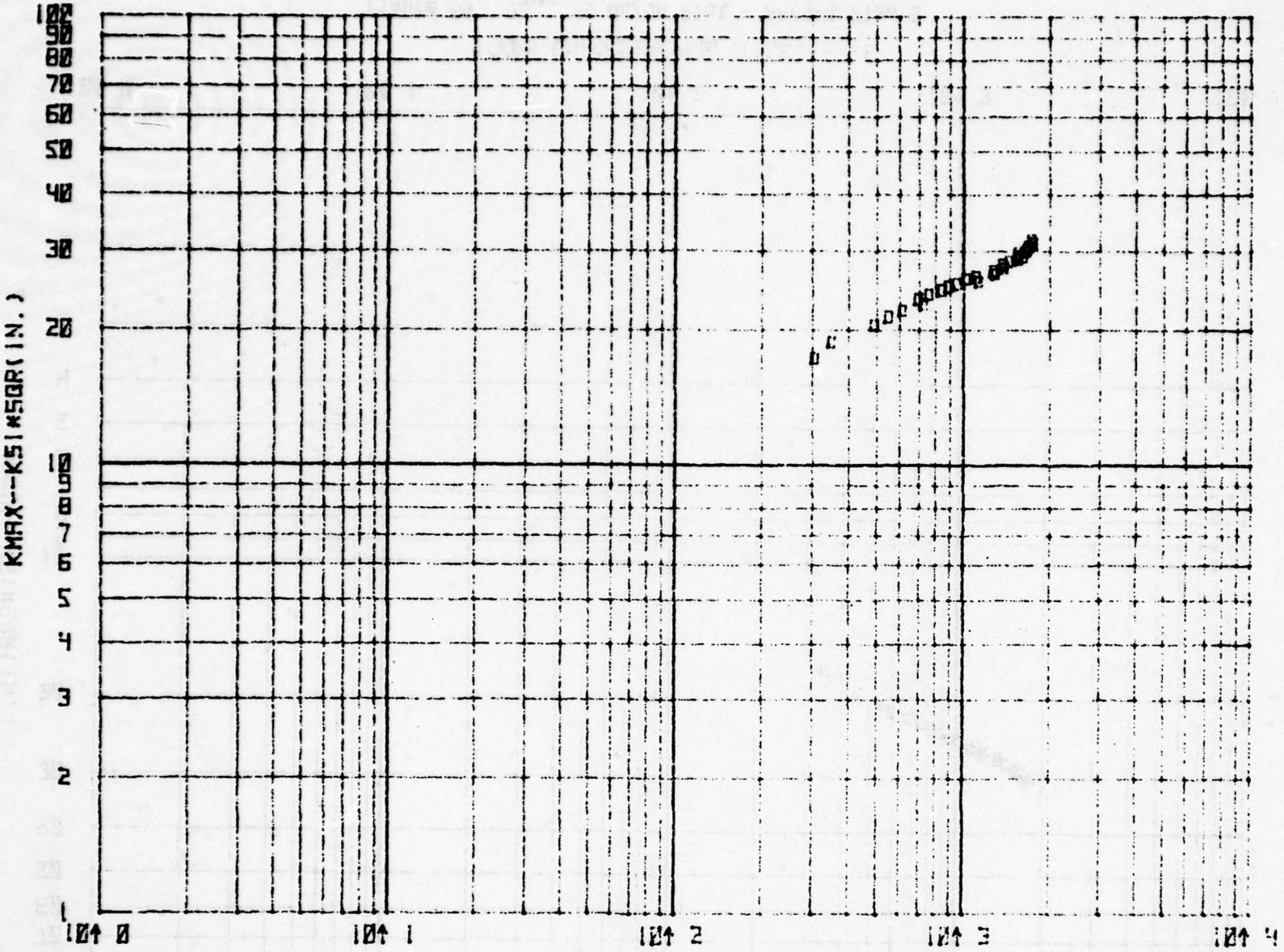

Figure 60. K_{MAX} Vs dc/dn Plot - AFCG-4 Flaw 4

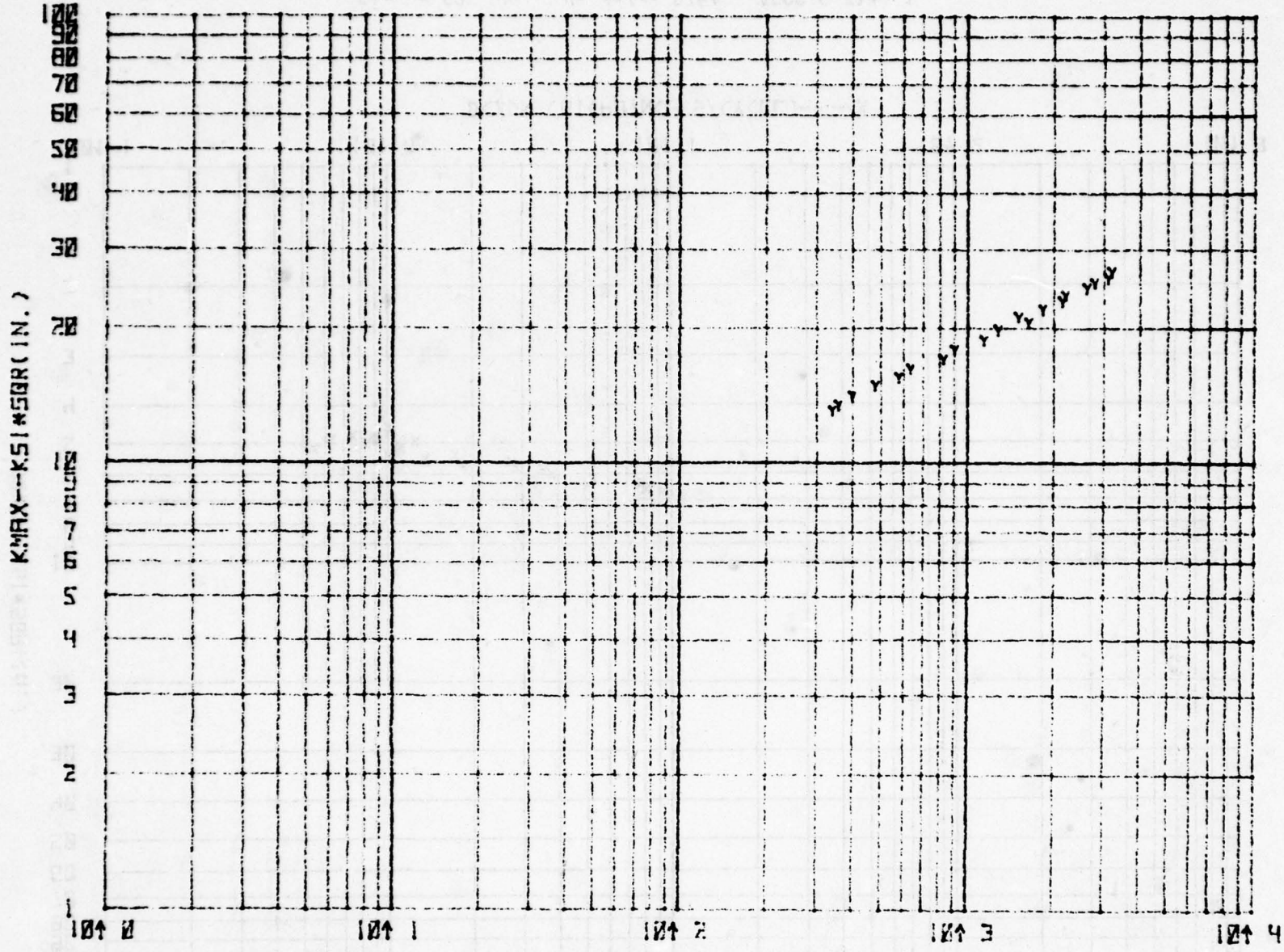

Figure 61. K_{MAX} Vs d2c/dn Plot - AFCG-4 Flaw 5

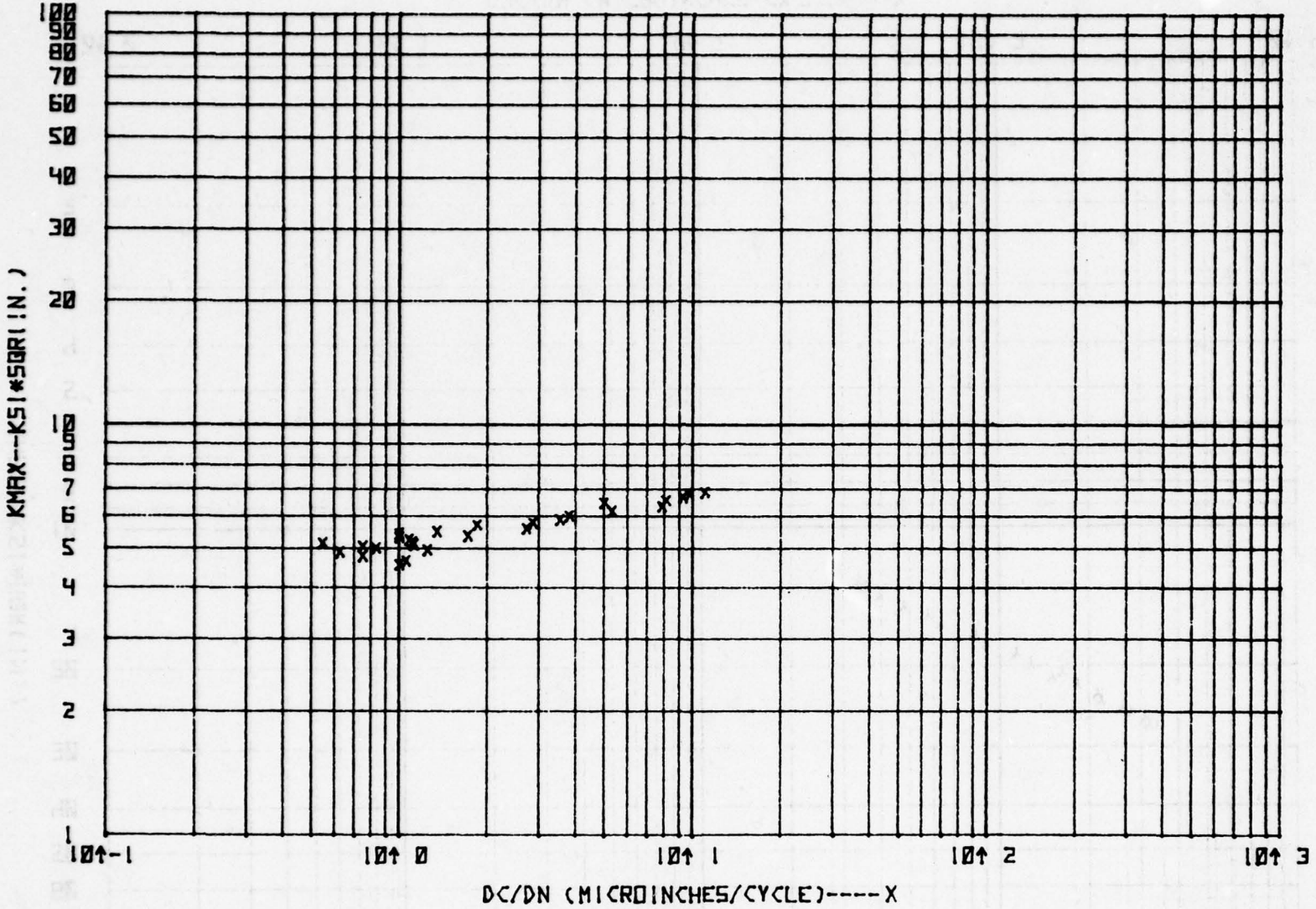

Figure 62. K_{MAX} Vs dc/dn Plot - AFCG-5 Flaw 1

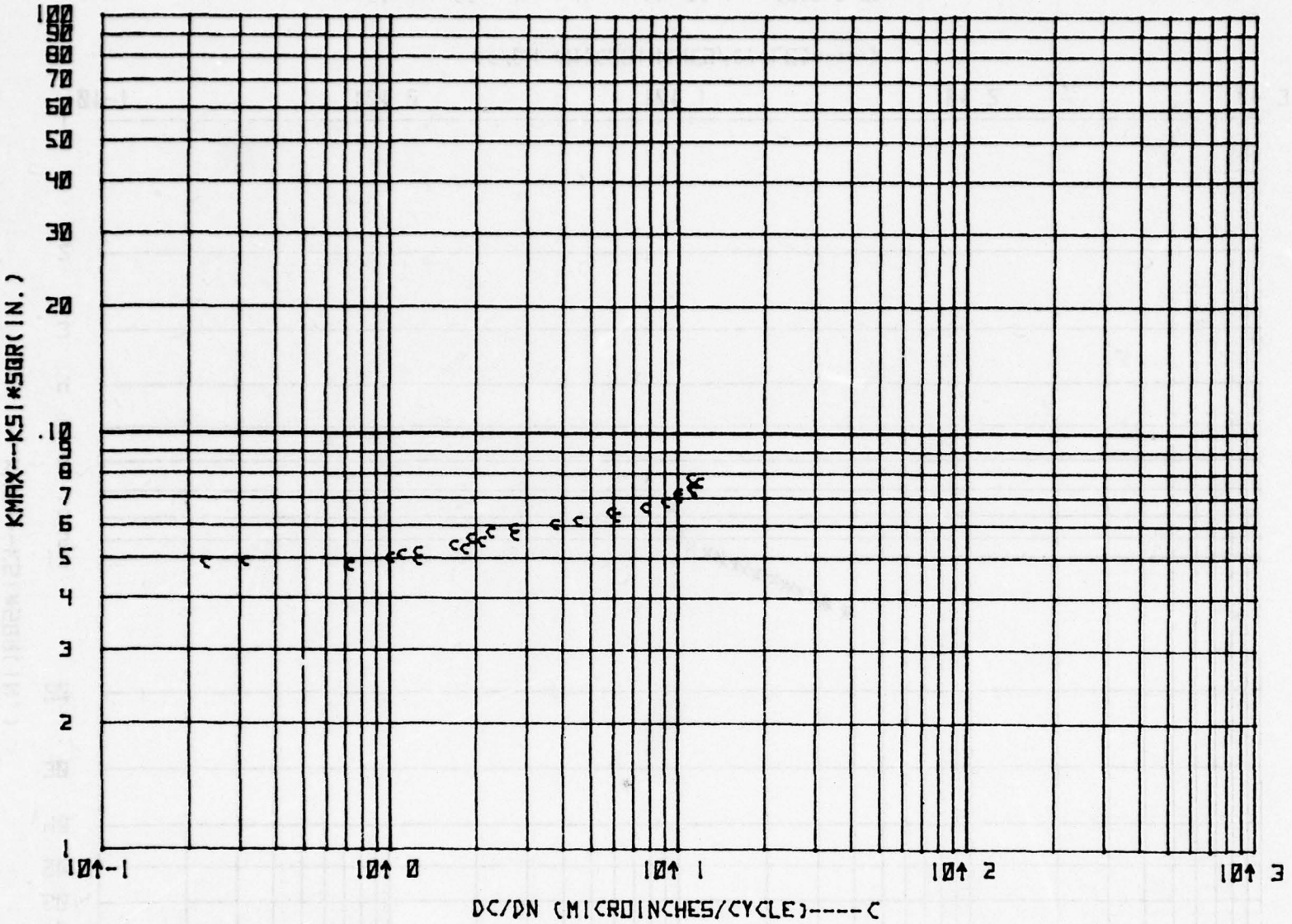

Figure 63. K_{MAX} Vs dc/dn Plot - AFCG-5 Flaw 2

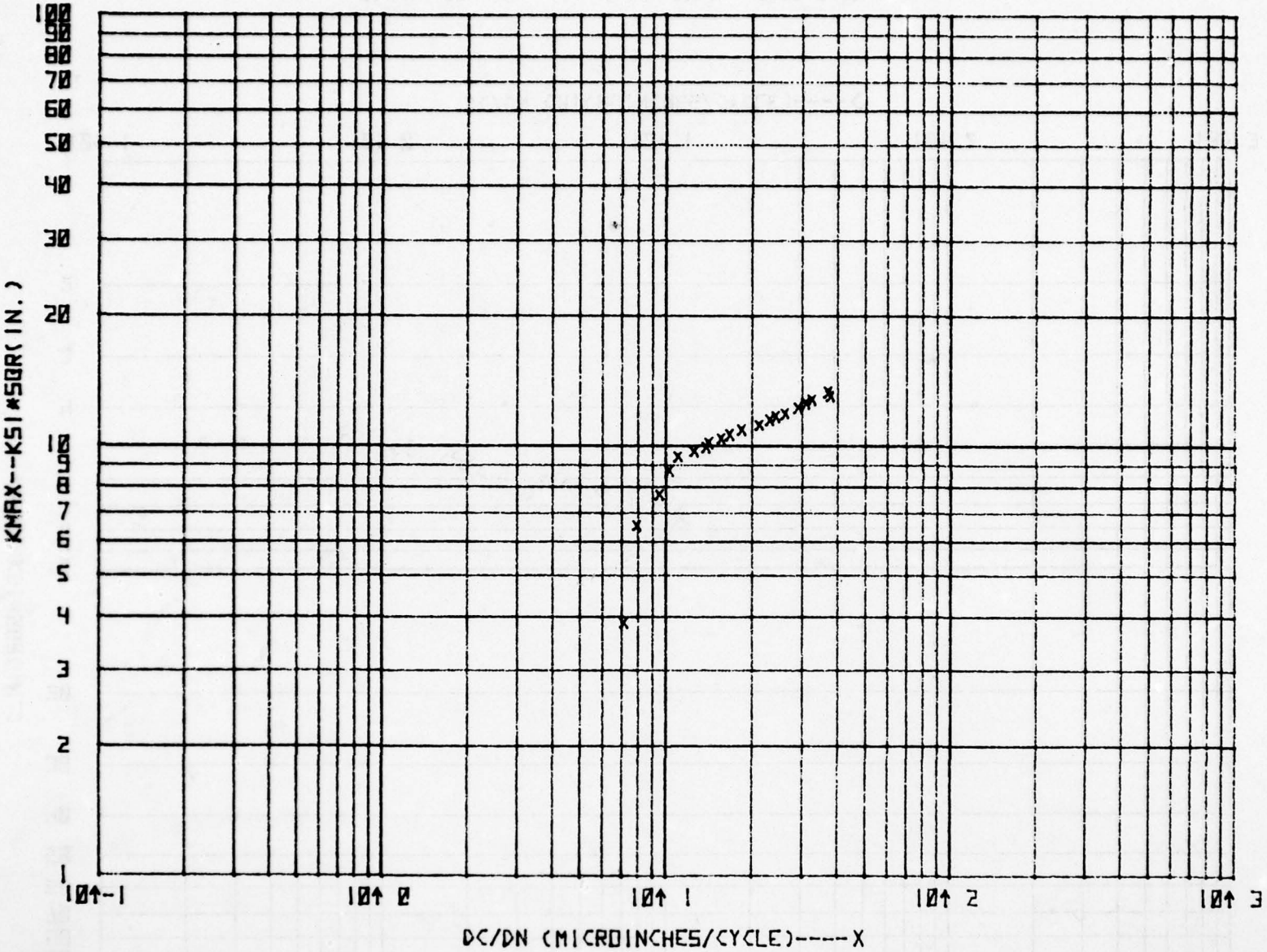

Figure 64. K_{MAX} Vs dc/dn Plot - AFCG-5 Flaw 3

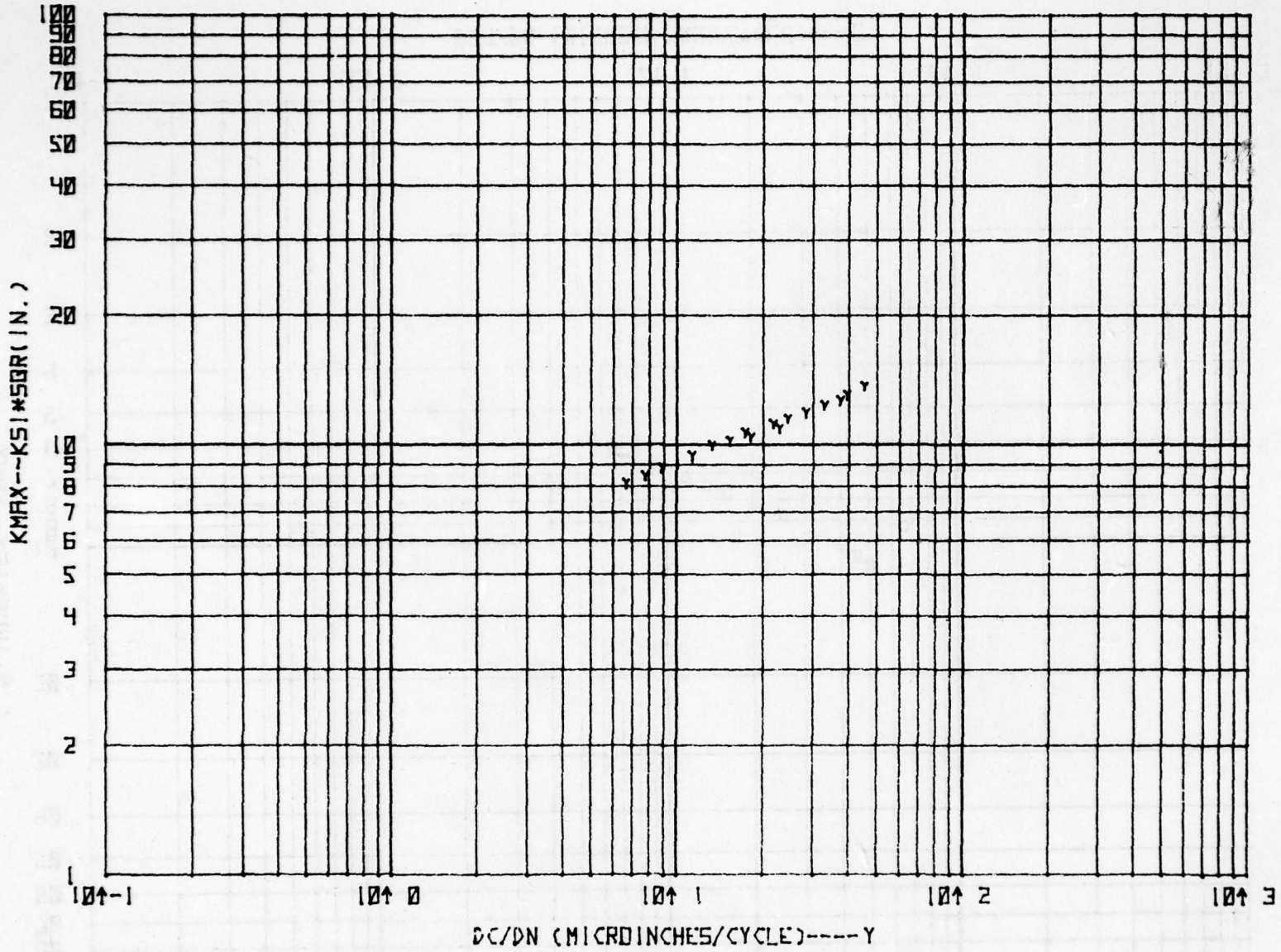

Figure 65. K_{MAX} Vs dc/dn Plot - AFCG-5 Flaw 4

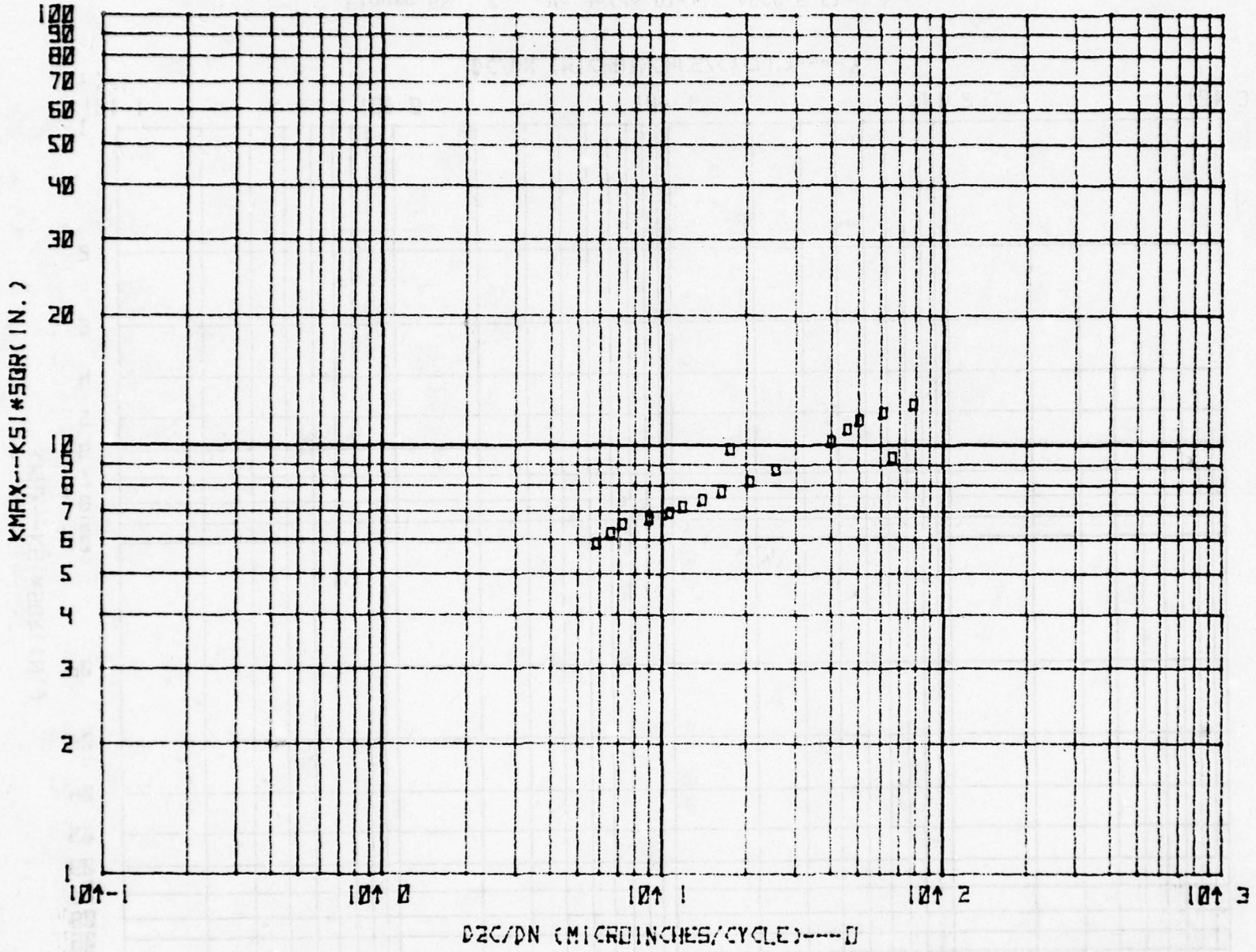

Figure 66. K_{MAX} Vs d2c/dn Plot - AFCG-5 Flaw 5

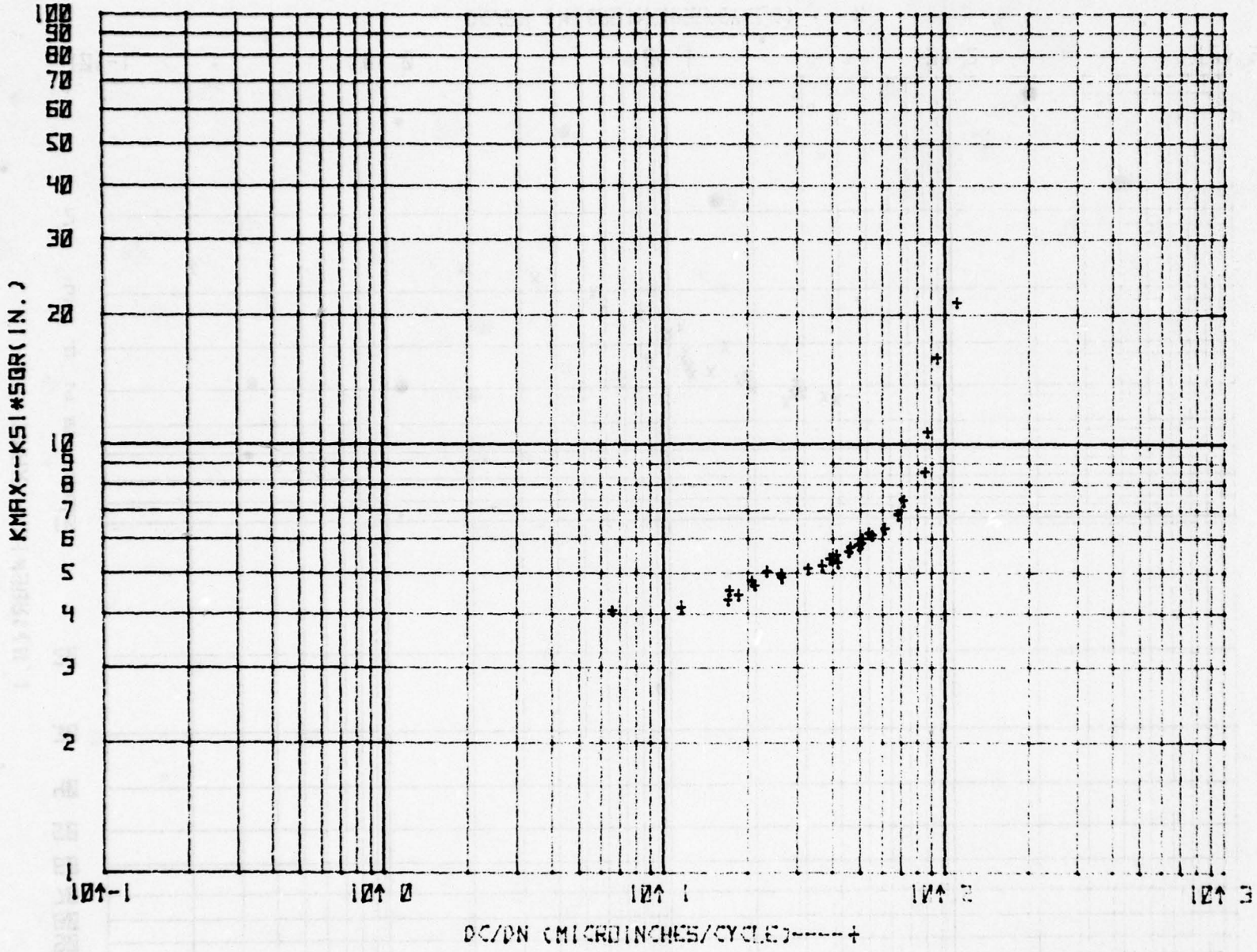

Figure 67. K_{MAX} Vs dc/dn Plot - AFCG-6 Flaw 1

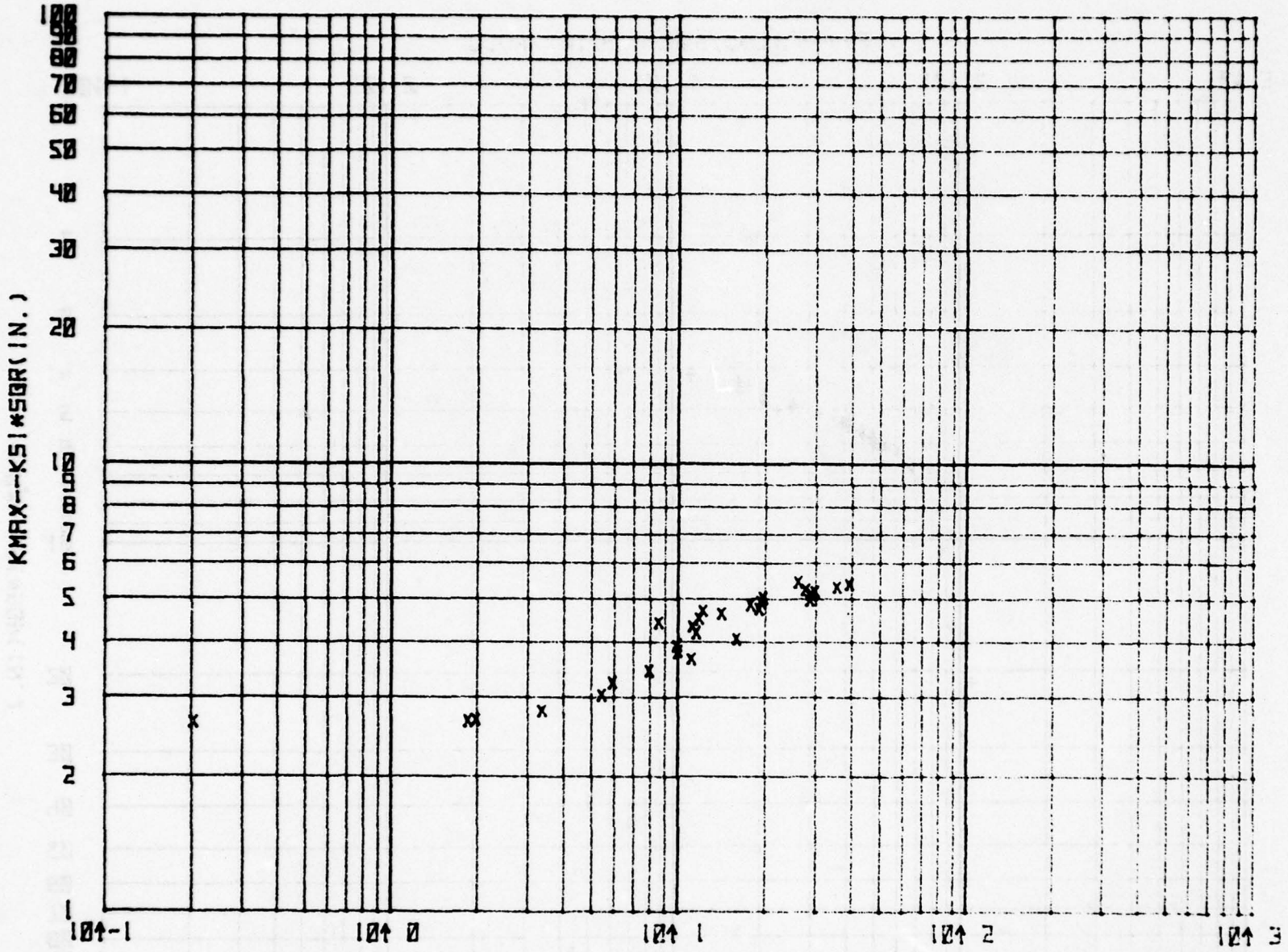

Figure 68. K_{MAX} Vs dc/dn Plot - AFCG-6 Flaw 2

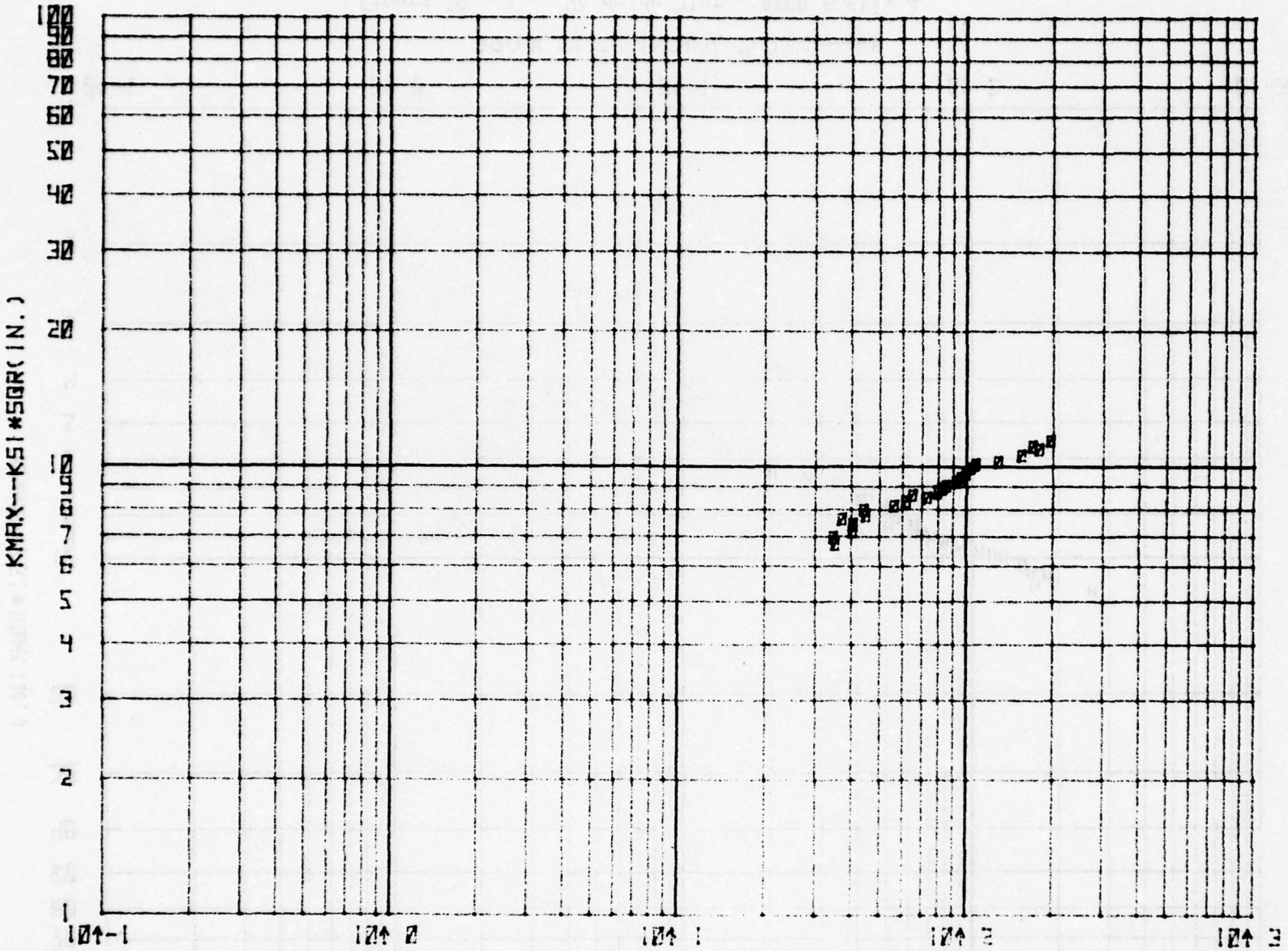

Figure 69. K_{MAX} Vs dc/dn Plot - AFCG-6 Flaw 3

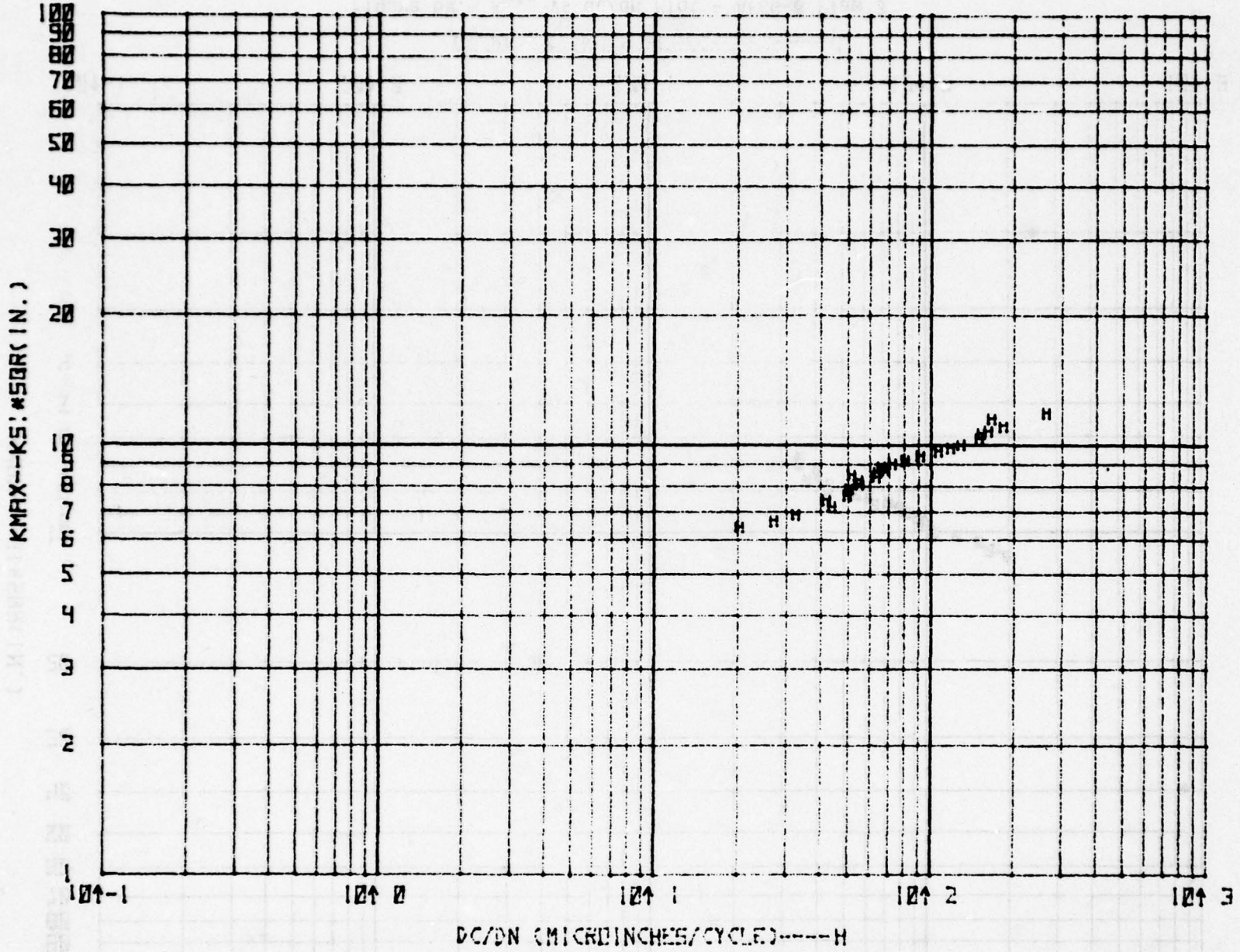

Figure 70. K_{MAX} Vs dc/dn Plot - AFCG-6 Flaw 4

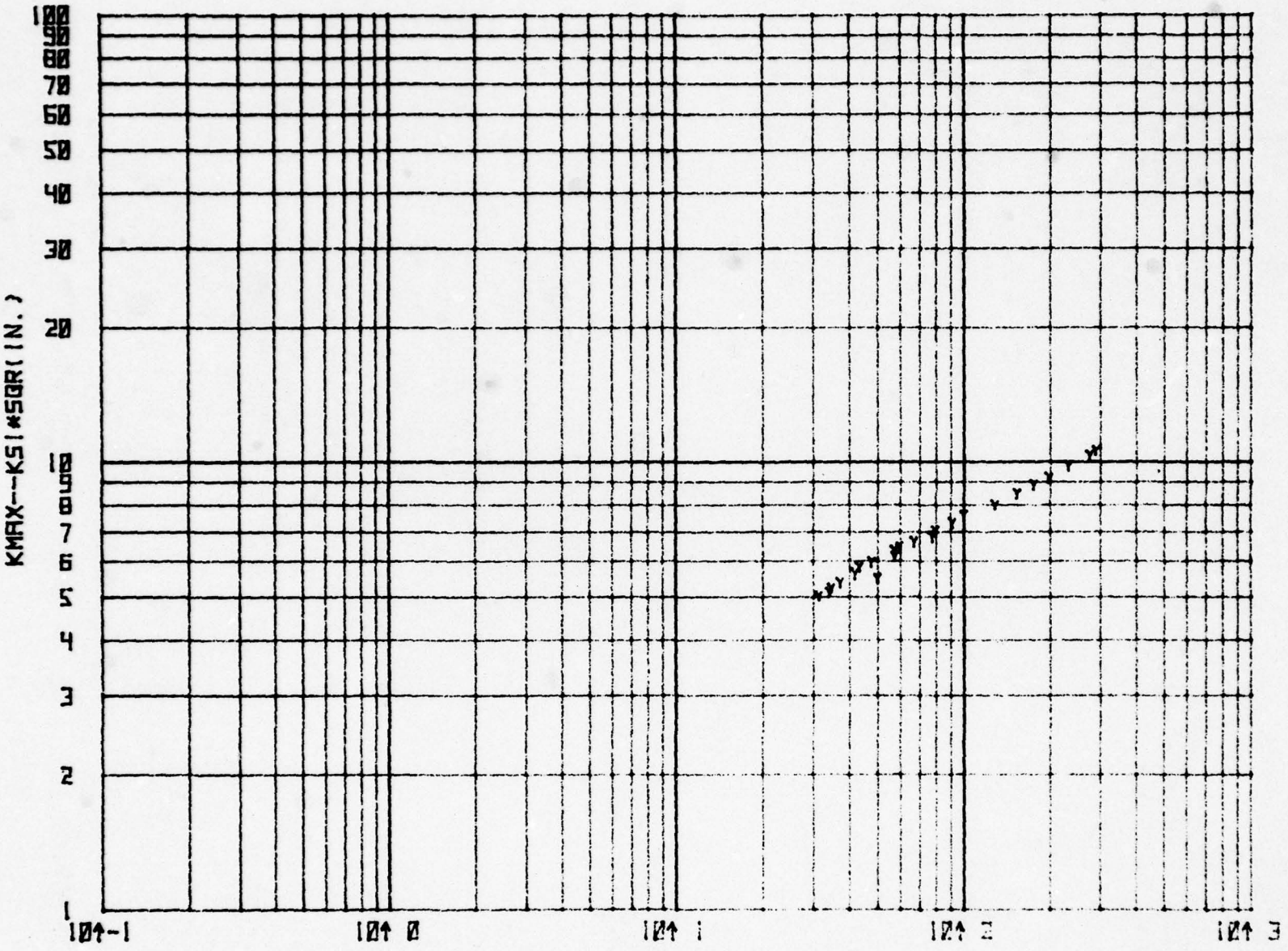

Figure 71. K_{MAX} Vs d2c/dn Plot - AFCG-6 Flaw 5

SECTION VI

CRACK GAGE MATERIAL da/dn TESTS

Six small coupon crack propagation tests were conducted to determine basic K_{MAX} vs da/dn properties of the crack gage material in the (.02 inch) thickness. These tests were conducted in load control. Figure 72 describes the small coupon details. Recorded test data of crack length and cycles is presented in Tables 90 through 95. A plot of crack length vs cycles is presented in Figure 72.

Calculation of K_{MAX} vs da/dn is presented in Tables 96 through 101. Log-log plots of K_{MAX} vs da/dn are presented in Figures 73 through 79.

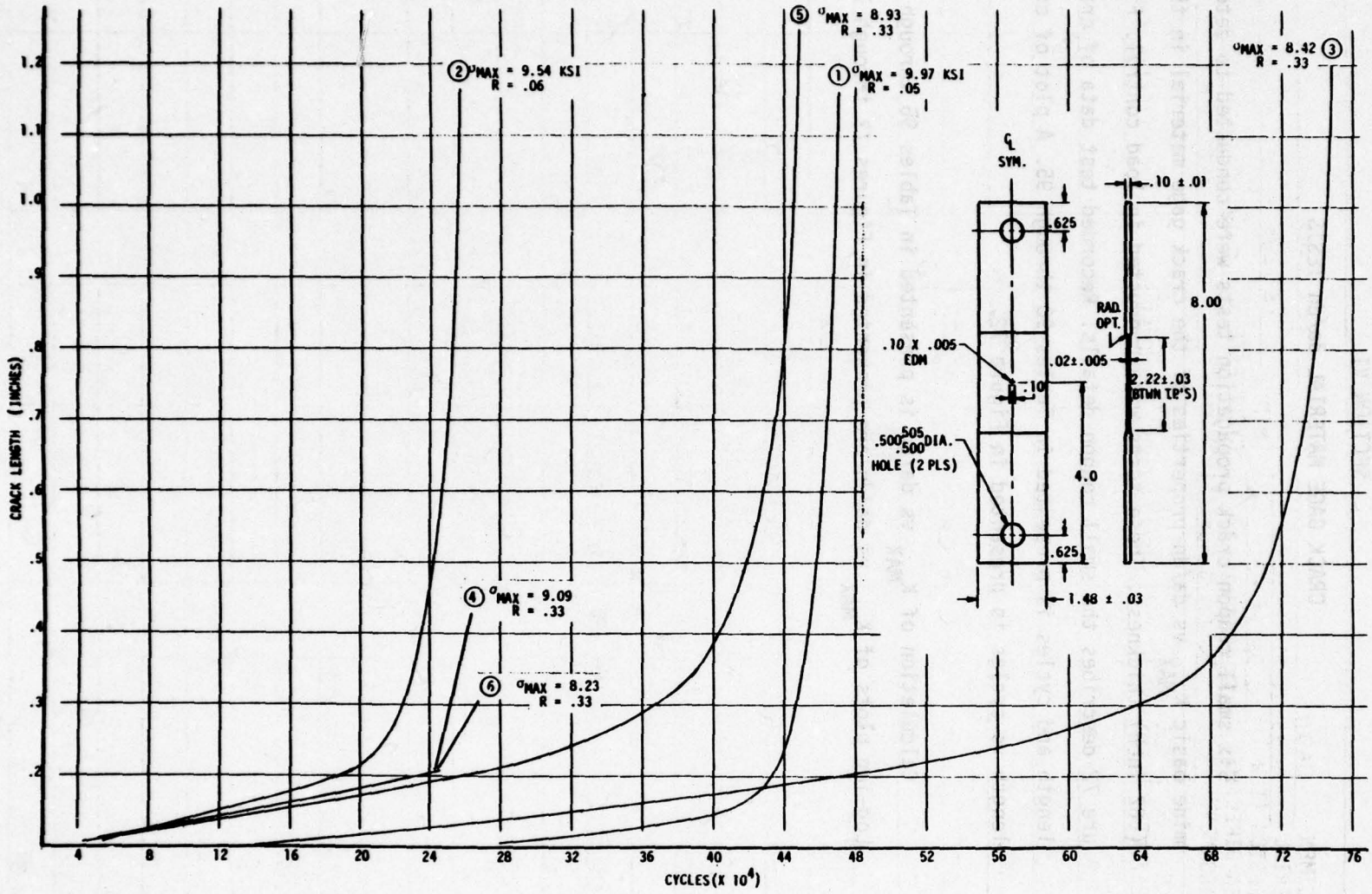

Figure 72. Thin Section Specimen Detail & da/dn Plot

Table 90. Crack Propagation Data - Specimen DADN-1

SPECIMEN DADN-1
MATERIAL 7075-T651
DIMENSION (T.W.) .0198, 1.490
GRAIN DIRECTION Longitudinal
ENVIRONMENT 95% + Relative Humidity
P_{MAX} 292 LBS.
P_{MIN} 15 LBS.
CYCLE RATE 5 Hz
MACHINE 200 KIP-MTS, 4 KIP RANGE

N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)
EDM	.0959	464400	.7370		
391000	.1352	464900	.7620		
400000	.1494	465500	.7910		
410000	.1510	466000	.8230		
420000	.1860	466500	.8530		
430000	.2460	466900	.8800		
441700	.2650	467800	.9350		
443900	.2750	468300	.9650		
445800	.2950	468500	.9913		
448000	.3210	465800	1.0050		
449400	.3390	469100	1.0525		
450800	.3610	469700	1.0700		
452600	.3940	470300	1.1028		
454200	.4240	470700	1.1470		
455700	.4560	470800	1.1580		
456700	.4770				
457700	.4996				
458600	.5250				
459600	.5500				
460600	.5830				
461300	.6070				
461900	.6297				
462800	.6670				
463400	.6915				
463900	.7173				

Table 91. Crack Propagation Data - Specimen DADN-2

SPECIMEN DADN-2 P_{MAX} 250 LBS.
MATERIAL 7075-T651 P_{MIN} 15 LBS.
DIMENSION (T.W.) .0177, 1.479 CYCLE RATE 5 Hz.
GRAIN DIRECTION Longitudinal MACHINE 200 KIP-MTS, 4 KIP RANGE
ENVIRONMENT 95% + Relative Humidity

N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)
EDM	.0967	233800	.3842	254500	.9457
55600	.1070	235000	.3983	255000	.9745
75600	.1209	236200	.4142	255400	1.0075
82500	.1258	237400	.4260	255700	1.0227
104400	.1417	238600	.4439	256000	1.0[illegible]
121000	.1528	239800	.4603	256[illegible]	1.0[illegible]
134000	.1641	241000	.4820	256400	1.1038
143200	.171[illegible]	242000	.4[illegible]	256500	1.1209
159000	.1810	243000	.5170	256700	1.1459
169900	.1899	244000	.5456	256800	1.1641
181800	.1995	245000	.5640		
196200	.2146	245900	.5929		
205100	.2240	246800	.6110		
211000	.2352	247700	.6454		
217600	.2575	248600	.6665		
226700	.2893	249500	.6976		
223900	.2970	250200	.7239		
225000	.3050	250800	.7490		
226000	.3130	251300	.7681		
227000	.3224	251800	.7903		
228000	.3302	252500	.8213		
229000	3370	253000	.8434		
230200	.3465	253500	.8700		
231400	.3607	253700	.8860		
232600	.3691	254100	.9110		

Table 92. Crack Propagation Data - Specimen DADN-3

SPECIMEN DADN-3 P_{MAX} 250 -Bs.
MATERIAL 7075-T651 P_{MIN} 12.5 -Bs.
DIMENSION (T.W.) .0201 , 1.480 CYCLE RATE 5 ~~~.
GRAIN DIRECTION Longitudinal MACHINE 200 KIP - MTS, 4 KIP RANGE
ENVIRONMENT 95% + Relative Humidity

N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)
EDM	.0976	629100	.2020	727800	.6361
137000	.1010	639700	.3000	729300	.6521
171500	.1100	655200	.3264	732400	.6838
184700	.1089	667100	.3338	733500	.7009
199600	.1170	671800	.3450	734700	.7312
230500	.1247	677500	.3542	735900	.7506
264700	.1343	684200	.3685	737400	.7814
274300	.1345	685800	.3775	738500	.7987
284700	.1514	690100	.3930	739600	.8281
297700	.1442	693600	.4010	740300	.8501
334000	.1542	696200	.4145	741200	.8760
348700	.1572	699000	.4235	742000	.8996
362900	.1635	701900	.4400	743000	.9299
390000	.1740	703300	.4444	743500	.9504
411700	.1831	705000	.4545	744200	.9727
420900	.1840	706800	.4631	744600	.9894
439300	.1900	708700	.4734	745500	1.0000
460800	.1980	710500	.4850	745900	1.0177
473000	.2118	711900	.4949	746400	1.0472
498500	.2130	713400	.5023	746900	1.0915
537800	.2320	715700	.5200	747300	1.1153
564800	.2460	718500	.5461	747700	1.1375
587600	.2608	720800	.5644	748000	1.1621
609500	.2760	723500	.5859	748400	1.1973
617400	.2825	725400	.6068		

Table 93. Crack Propagation Data - Specimen DADN-4

SPECIMEN DADN-4 P_{MAX} 250 LBS.
MATERIAL 7075-T651 P_{MIN} 82.5 LBS.
DIMENSION (T.W.) .0186, 1.478 CYCLE RATE 5 HZ.
GRAIN DIRECTION Longitudinal MACHINE 200 KIP-MTS, 4KIP RANGE
ENVIRONMENT 95% + Relative Humidity

N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)
EDM	.0934				
91500	.1048				
103600	.1356				
120800	.1439				
176700	.1709				
195200	.1800				
220500	.1934				
245600	.2076				

Table 94. Crack Propagation Data - Specimen DADN-5

SPECIMEN DADN-5
MATERIAL 7075-T651
DIMENSION (T.W.) .0129 , 1.493
GRAIN DIRECTION Longitudinal
ENVIRONMENT 95% + Relative Humidity
P_{MAX} 250 LBS.
P_{MIN} 32.5 LBS.
CYCLE RATE 8 Hz.
MACHINE 200 KIP-MTS, 4 KIP RANGE

N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)
EDM	.0965	401200	.3900	443600	.9300
24000	.1066	403900	.4029	444200	.9550
43600	.1070	405700	.4111	445000	.9900
76500	.1210	408800	.4310	445400	1.0295
103600	.1322	410700	.4400	445900	1.0250
129800	.1431	412600	.4550	446700	1.0751
141800	.1496	414200	.4645	447100	1.1[illegible]
167900	.1580	415000	.4763	447500	1.1423
201800	.1740	416500	48[illegible]	447800	1.1579
230000	.1884	417600	.4972	448200	1.2034
250700	.1990	418300	.5059	448600	1.2471
268500	.2074	421500	5292		
303300	.2310	423600	.5500		
319000	.2434	425600	.5750		
329300	.2530	428300	.6026		
343000	.2675	430600	.6400		
352700	.2780	432300	.6660		
358500	.2860	434900	.7115		
367800	.3010	436000	.7339		
373300	.3100	437700	.7660		
378500	.3200	439500	.7931		
384200	.3340	439700	.8144		
390000	.3494	441100	.8579		
394600	.3638	442000	.8790		
398100	.3778	442800	.9000		

Table 95. Crack Propagation Data - Specimen DADN-6

SPECIMEN DADN-6
MATERIAL 7075-T651
DIMENSION (T.W.) .0206, 1.480
GRAIN DIRECTION Longitudinal
ENVIRONMENT 95% + Relative Humidity
P_{MAX} 250 LBS.
P_{MIN} 15 LBS.
CYCLE RATE 5 Hz.
MACHINE 200 KIP - MTS, 4 KIP RANGE

N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)	N (CYCLES/FLTS)	2A (INCHES)
EDM	.0978				
52000	.1106				
63400	.1154				
89800	.1271				
116000	.1392				
136300	.1490				
161600	.1618				
166200	.1645				

Table 96. K_{MAX} Vs d2c/dn - Specimen DADN-1

TEST CASE ID-- DADN-1
OF CYCLE ENTRIES,M= 31
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4800

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 9.97[illegible]
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.0198

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	381000		0.0198		0.0691		4.670		
2	400000	19000	0.0198	0.0000E+00	0.0747	1.1200E-02	4.860	4.765	5.8947E-07
3	410000	10000	0.0198	0.0000E+00	0.0755	1.6000E-03	4.887	4.874	1.6000E-07
4	430000	20000	0.0198	0.0000E+00	0.0935	3.5900E-02	5.456	5.171	1.7950E-06
5	440000	10000	0.0198	0.0000E+00	0.1230	5.9100E-02	6.305	5.881	5.9100E-06
6	441700	1700	0.0198	0.0000E+00	0.1296	1.3200E-02	6.485	6.395	7.7647E-06
7	443900	2200	0.0198	0.0000E+00	0.1378	1.6300E-02	6.702	6.594	7.4091E-06
8	445800	1900	0.0198	0.0000E+00	0.1477	1.9800E-02	6.962	6.832	1.0421E-05
9	448000	2200	0.0198	0.0000E+00	0.1606	2.5900E-02	7.295	7.128	1.1773E-05
10	449400	1400	0.0198	0.0000E+00	0.1695	1.7800E-02	7.520	7.407	1.2714E-05
11	450800	1400	0.0198	0.0000E+00	0.1805	2.2000E-02	7.796	7.658	1.5714E-05
12	452600	1800	0.0198	0.0000E+00	0.1970	3.3000E-02	8.205	8.000	1.8333E-05
13	454200	1600	0.0198	0.0000E+00	0.2120	3.0000E-02	8.575	8.390	1.8750E-05
14	455700	1500	0.0198	0.0000E+00	0.2280	3.2000E-02	8.969	8.772	2.1333E-05
15	456700	1000	0.0198	0.0000E+00	0.2385	2.1000E-02	9.228	9.098	2.1000E-05
16	457700	1000	0.0198	0.0000E+00	0.2498	2.2600E-02	9.509	9.369	2.2600E-05
17	458600	900	0.0198	0.0000E+00	0.2625	2.5400E-02	9.828	9.668	2.8222E-05
18	459600	1000	0.0198	0.0000E+00	0.2750	2.5000E-02	10.145	9.986	2.5000E-05
19	460600	1000	0.0198	0.0000E+00	0.2915	3.3000E-02	10.571	10.358	3.3000E-05
20	461300	700	0.0198	0.0000E+00	0.3035	2.4000E-02	10.887	10.729	3.4286E-05
21	462800	1500	0.0198	0.0000E+00	0.3335	6.0000E-02	11.708	11.298	4.0000E-05
22	463900	1100	0.0198	0.0000E+00	0.3587	5.0300E-02	12.438	12.073	4.5727E-05
23	464900	1000	0.0198	0.0000E+00	0.3810	4.4700E-02	13.127	12.783	4.4700E-05
24	466000	1100	0.0198	0.0000E+00	0.4115	6.1000E-02	14.146	13.637	5.5455E-05
25	466900	900	0.0198	0.0000E+00	0.4405	5.8000E-02	15.221	14.683	6.4444E-05
26	467800	900	0.0198	0.0000E+00	0.4675	5.4000E-02	16.341	15.781	6.0000E-05
27	468300	500	0.0198	0.0000E+00	0.4825	3.0000E-02	17.026	16.683	6.0000E-05
28	468800	500	0.0198	0.0000E+00	0.5025	4.0000E-02	18.024	17.525	8.0000E-05
29	469700	900	0.0198	0.0000E+00	0.5350	6.5000E-02	19.908	18.966	7.2222E-05
30	470700	1000	0.0198	0.0000E+00	0.5735	7.7000E-02	22.747	21.327	7.7000E-05
31	470800	100	0.0198	0.0000E+00	0.5790	1.1000E-02	23.227	22.9[illegible]	1.1000E-04

Table 97. K_{MAX} Vs d2c/dn - Specimen DADN-2

TEST CASE ID-- DADN-2
OF CYCLE ENTRIES,M= 38
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4790

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 4.540
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.0177

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	55600		0.0177		0.0535		3.924		
2	75600	20000	0.0177	0.0000E+00	0.0605	1.3900E-02	4.175	4.049	6.9500E-07
3	82500	6900	0.0177	0.0000E+00	0.0629	4.9000E-03	4.260	4.217	7.1014E-07
4	104400	21900	0.0177	0.0000E+00	0.0709	1.5900E-02	4.526	4.393	7.2603E-07
5	121000	16600	0.0177	0.0000E+00	0.0764	1.1100E-02	4.705	4.616	6.6867E-07
6	134000	13000	0.0177	0.0000E+00	0.0821	1.1300E-02	4.881	4.793	8.6923E-07
7	143200	9200	0.0177	0.0000E+00	0.0856	7.0000E-03	4.987	4.934	7.6087E-07
8	159000	15800	0.0177	0.0000E+00	0.0905	9.9000E-03	5.134	5.061	6.2658E-07
9	169900	10900	0.0177	0.0000E+00	0.0945	8.0000E-03	5.251	5.193	7.3394E-07
10	181800	11900	0.0177	0.0000E+00	0.0997	1.0300E-02	5.398	5.325	8.6555E-07
11	196200	14400	0.0177	0.0000E+00	0.1073	1.5300E-02	5.612	5.505	1.0625E-06
12	205100	8900	0.0177	0.0000E+00	0.1120	9.4000E-03	5.740	5.676	1.0562E-06
13	211000	5900	0.0177	0.0000E+00	0.1191	1.4200E-02	5.931	5.835	2.4068E-06
14	217600	6600	0.0177	0.0000E+00	0.1288	1.9300E-02	6.183	6.057	2.9242E-06
15	222700	5100	0.0177	0.0000E+00	0.1447	3.1800E-02	6.587	6.385	6.2353E-06
16	223900	1200	0.0177	0.0000E+00	0.1485	7.7000E-03	6.683	6.635	6.4167E-06
17	225000	1100	0.0177	0.0000E+00	0.1525	8.0000E-03	6.782	6.732	7.2727E-06
18	226000	1000	0.0177	0.0000E+00	0.1565	8.0000E-03	6.880	6.831	8.0000E-06
19	228000	2000	0.0177	0.0000E+00	0.1651	1.7200E-02	7.090	6.985	8.6000E-06
20	231400	3400	0.0177	0.0000E+00	0.1804	3.0500E-02	7.456	7.273	8.9706E-06
21	233800	2400	0.0177	0.0000E+00	0.1921	2.3500E-02	7.736	7.596	9.7917E-06
22	236200	2400	0.0177	0.0000E+00	0.2071	3.0000E-02	8.090	7.913	1.2500E-05
23	238600	2400	0.0177	0.0000E+00	0.2220	2.9700E-02	8.440	8.265	1.2375E-05
24	241000	2400	0.0177	0.0000E+00	0.2410	3.8100E-02	8.890	8.665	1.5875E-05
25	243000	2000	0.0177	0.0000E+00	0.2595	3.7000E-02	9.333	9.111	1.8500E-05
26	245000	2000	0.0177	0.0000E+00	0.2820	4.5000E-02	9.881	9.607	2.2500E-05
27	246800	1800	0.0177	0.0000E+00	0.3055	4.7000E-02	10.471	10.176	2.6111E-05
28	248600	1800	0.0177	0.0000E+00	0.3333	5.5500E-02	11.199	10.835	3.0833E-05
29	250200	1600	0.0177	0.0000E+00	0.3619	5.7300E-02	11.998	11.598	3.5813E-05
30	251300	1100	0.0177	0.0000E+00	0.3841	4.4300E-02	12.658	12.328	4.0273E-05
31	252500	1200	0.0177	0.0000E+00	0.4107	5.3200E-02	13.512	13.085	4.4333E-05
32	253500	1000	0.0177	0.0000E+00	0.4350	4.8700E-02	14.366	13.939	4.8700E-05
33	254100	600	0.0177	0.0000E+00	0.4555	4.1000E-02	15.151	14.759	6.8333E-05
34	255400	1300	0.0177	0.0000E+00	0.5038	9.6500E-02	17.321	16.236	7.4231E-05
35	256100	700	0.0177	0.0000E+00	0.5330	5.8400E-02	18.940	18.130	8.3429E-05
36	256500	400	0.0177	0.0000E+00	0.5604	5.4900E-02	20.773	19.856	1.3725E-04
37	256700	200	0.0177	0.0000E+00	0.5730	2.5100E-02	21.745	21.259	1.2550E-04
38	256800	100	0.0177	0.0000E+00	0.5821	1.8200E-02	22.517	22.131	1.8200E-04

Table 98. K_{MAX} Vs d2c/dn - Specimen DADN-3

TEST CASE ID-- DADN-3
OF CYCLE ENTRIES,M= 41
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4800

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 8.420
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.0198

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	137000		0.0201		0.0505		3.416		
2	171500	34500	0.0201	0.0000E+00	0.0550	9.0000E-03	3.566	3.491	2.6087E-07
3	199600	28100	0.0201	0.0000E+00	0.0585	7.0000E-03	3.679	3.622	2.4911E-07
4	230500	30900	0.0201	0.0000E+00	0.0624	7.7000E-03	3.800	3.739	2.4919E-07
5	264700	34200	0.0201	0.0000E+00	0.0672	9.6000E-03	3.947	3.873	2.8070E-07
6	297700	33000	0.0201	0.0000E+00	0.0721	9.9000E-03	4.094	4.020	3.0000E-07
7	334000	36300	0.0201	0.0000E+00	0.0771	1.0000E-02	4.238	4.166	2.7548E-07
8	362900	28900	0.0201	0.0000E+00	0.0818	9.3000E-03	4.368	4.303	3.2130E-07
9	390000	27100	0.0201	0.0000E+00	0.0870	1.0500E-02	4.512	4.440	3.8745E-07
10	420900	30900	0.0201	0.0000E+00	0.0920	1.0000E-02	4.645	4.578	3.2362E-07
11	439300	18400	0.0201	0.0000E+00	0.0950	6.0000E-03	4.724	4.685	3.2609E-07
12	460800	21500	0.0201	0.0000E+00	0.0990	8.0000E-03	4.828	4.776	3.7209E-07
13	498500	37700	0.0201	0.0000E+00	0.1065	1.5000E-02	5.018	4.923	3.9788E-07
14	537800	39300	0.0201	0.0000E+00	0.1160	1.9000E-02	5.252	5.135	4.8346E-07
15	564800	27000	0.0201	0.0000E+00	0.1230	1.4000E-02	5.420	5.336	5.1852E-07
16	587600	22800	0.0201	0.0000E+00	0.1304	1.4800E-02	5.595	5.507	6.4912E-07
17	617400	29800	0.0201	0.0000E+00	0.1413	2.1700E-02	5.845	5.720	7.2819E-07
18	639700	22300	0.0201	0.0000E+00	0.1500	1.7500E-02	6.044	5.944	7.8475E-07
19	658900	19200	0.0201	0.0000E+00	0.1632	2.6400E-02	6.337	6.190	1.3750E-06
20	671800	12900	0.0201	0.0000E+00	0.1725	1.8600E-02	6.542	6.440	1.4419E-06
21	682200	10400	0.0201	0.0000E+00	0.1843	2.3500E-02	6.797	6.669	2.2596E-06
22	693600	11400	0.0201	0.0000E+00	0.2005	3.2500E-02	7.147	6.972	2.8509E-06
23	701900	8300	0.0201	0.0000E+00	0.2200	3.9000E-02	7.566	7.356	4.6988E-06
24	710500	8600	0.0201	0.0000E+00	0.2425	4.5000E-02	8.050	7.808	5.2326E-06
25	715700	5200	0.0201	0.0000E+00	0.2600	3.5000E-02	8.432	8.241	6.7308E-06
26	720800	5100	0.0201	0.0000E+00	0.2822	4.4400E-02	8.925	8.679	8.7059E-06
27	725400	4600	0.0201	0.0000E+00	0.3034	4.2400E-02	9.410	9.168	9.2174E-06
28	729300	3900	0.0201	0.0000E+00	0.3251	4.5300E-02	9.948	9.679	1.1615E-05
29	732400	3100	0.0201	0.0000E+00	0.3449	3.7700E-02	10.416	10.182	1.2161E-05
30	734700	2300	0.0201	0.0000E+00	0.3656	4.1400E-02	10.954	10.685	1.8000E-05
31	737400	2700	0.0201	0.0000E+00	0.3907	5.0200E-02	11.650	11.302	1.8593E-05
32	738500	1100	0.0201	0.0000E+00	0.3994	1.7300E-02	11.903	11.776	1.5727E-05
33	739600	1100	0.0201	0.0000E+00	0.4145	3.0200E-02	12.362	12.133	2.7455E-05
34	741200	1600	0.0201	0.0000E+00	0.4380	4.7100E-02	13.131	12.746	2.9438E-05

Table 98. K_{MAX} Vs d2c/dn - Specimen DADN-3 (Continued)

TEST CASE ID-- DADN-3
OF CYCLE ENTRIES,M= 41
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4800

CRACK TYPE CODE,F= 1
GROSS APPL STRESS,S= 8.420
HOLE DIAMETER,D= 0.3900
PANEL THICKNESS,T= 0.0198

35	743000	1800	0.0201	0.0000E+00	0.4650	5.3900E-02	14.107	13.619	9944E-05
36	744200	1200	0.0201	0.0000E+00	0.4864	4.2800E-02	14.975	14.541	5667E-05
37	745500	1300	0.0201	0.0000E+00	0.5000	2.7300E-02	15.581	15.278	1000E-05
38	746400	900	0.0201	0.0000E+00	0.5236	4.7200E-02	16.748	16.1[illegible]	5.2444E-05
39	746900	500	0.0201	0.0000E+00	0.5458	4.4300E-02	18.015	17.[illegible]	8.8600E-05
40	748000	1100	0.0201	0.0000E+00	0.5811	7.0600E-02	20.524	19.2[illegible]	6.4182E-05
41	748400	400	0.0201	0.0000E+00	0.5987	3.5200E-02	22.101	21.31[illegible]	8.8000E-05

Table 99. K_{MAX} Vs d2c/dn - Specimen DADN-4

TEST CASE ID-- DADN-4
OF CYCLE ENTRIES,M= 6
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4780

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 9.090
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.0186

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	103600		0.0186		0.0678		4.217		
2	120800	17200	0.0186	0.0000E+00	0.0719	9.2000E-03	4.346	4.281	4.7674E-07
3	176700	55900	0.0186	0.0000E+00	0.0854	2.7900E-02	4.748	4.547	4.8301E-07
4	195200	18500	0.0186	0.0000E+00	0.0900	9.2000E-03	4.878	4.813	4.9730E-07
5	220500	25300	0.0186	0.0000E+00	0.0967	1.3400E-02	5.064	4.971	5.2964E-07
6	245600	25100	0.0186	0.0000E+00	0.1038	1.4200E-02	5.255	5.159	5.6574E-07

Table 100. K_{MAX} Vs d2c/dn - Specimen DADN-5

TEST CASE ID-- DADN-5
OF CYCLE ENTRIES,M= 50
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4830
CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 8.930
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.0189

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	43600		0.0189		0.0535		3.673		
2	76500	32900	0.0189	0.0000E+00	0.0605	1.4000E-02	3.909	3.791	4.2553E-07
3	103600	27100	0.0189	0.0000E+00	0.0661	1.1200E-02	4.089	3.999	4.1328E-07
4	128800	25200	0.0189	0.0000E+00	0.0716	1.0900E-02	4.258	4.174	4.3254E-07
5	141800	13000	0.0189	0.0000E+00	0.0748	6.5000E-03	4.356	4.307	5.0000E-07
6	167900	26100	0.0189	0.0000E+00	0.0790	8.4000E-03	4.480	4.418	3.2184E-07
7	201800	33900	0.0189	0.0000E+00	0.0870	1.6000E-02	4.709	4.594	4.7198E-07
8	230000	28200	0.0189	0.0000E+00	0.0942	1.4400E-02	4.907	4.808	5.1064E-07
9	250700	20700	0.0189	0.0000E+00	0.0990	9.6000E-03	5.036	4.971	4.6377E-07
10	268500	17800	0.0189	0.0000E+00	0.1027	9.4000E-03	5.159	5.098	5.2809E-07
11	303300	34800	0.0189	0.0000E+00	0.1155	2.3600E-02	5.461	5.310	6.7816E-07
12	319000	15700	0.0189	0.0000E+00	0.1217	1.2400E-02	5.615	5.538	7.8981E-07
13	329300	10300	0.0189	0.0000E+00	0.1265	9.6000E-03	5.733	5.674	9.3204E-07
14	343000	13700	0.0189	0.0000E+00	0.1338	1.4500E-02	5.908	5.820	1.0584E-06
15	352700	9700	0.0189	0.0000E+00	0.1390	1.0500E-02	6.032	5.970	1.0825E-06
16	358500	5800	0.0189	0.0000E+00	0.1430	8.0000E-03	6.127	6.079	1.3793E-06
17	367800	9300	0.0189	0.0000E+00	0.1505	1.5000E-02	6.301	6.214	1.6129E-06
18	373300	5500	0.0189	0.0000E+00	0.1550	9.0000E-03	6.405	6.353	1.6364E-06
19	378500	5200	0.0189	0.0000E+00	0.1600	1.0000E-02	6.519	6.462	1.9231E-06
20	384200	5700	0.0189	0.0000E+00	0.1679	1.4000E-02	6.678	6.599	2.4561E-06
21	390000	5800	0.0189	0.0000E+00	0.1747	1.5400E-02	6.852	6.765	2.6552E-06
22	394600	4600	0.0189	0.0000E+00	0.1819	1.4400E-02	7.013	6.932	3.1304E-06
23	398100	3500	0.0189	0.0000E+00	0.1889	1.4000E-02	7.168	7.090	4.0000E-06
24	401200	3100	0.0189	0.0000E+00	0.1950	1.2200E-02	7.303	7.236	3.9355E-06
25	405700	4500	0.0189	0.0000E+00	0.2056	2.1100E-02	7.536	7.420	4.6889E-06
26	408800	3100	0.0189	0.0000E+00	0.2155	1.9900E-02	7.756	7.646	6.4194E-06
27	412600	3800	0.0189	0.0000E+00	0.2275	2.4000E-02	8.020	7.888	6.3158E-06
28	415000	2400	0.0189	0.0000E+00	0.2382	2.1300E-02	8.256	8.138	8.8750E-06
29	418900	3900	0.0189	0.0000E+00	0.2529	2.9500E-02	8.584	8.420	7.5641E-06
30	421500	2600	0.0189	0.0000E+00	0.2646	2.3400E-02	8.847	8.715	9.0000E-06
31	423600	2100	0.0189	0.0000E+00	0.2730	2.0300E-02	9.083	8.965	9.9048E-06
32	425600	2000	0.0189	0.0000E+00	0.2875	2.5000E-02	9.371	9.227	1.2500E-05
33	428300	2700	0.0189	0.0000E+00	0.3048	3.4600E-02	9.778	9.574	1.2815E-05
34	430600	2300	0.0189	0.0000E+00	0.3200	3.0400E-02	10.145	9.962	1.3217E-05
35	432300	1700	0.0189	0.0000E+00	0.3330	2.6000E-02	10.468	10.307	1.5294E-05

Table 100. K_{MAX} Vs d2c/dn - Specimen DADN-5 (Continued)

TEST CASE ID-- DADN-5
OF CYCLE ENTRIES,M= 50
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4830

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 8.930
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.0189

#	CYCLES	DN	A	DA	C	D2C	KMAX	K	D2C/DN
36	434800	2500	0.0189	0.0000E+00	0.3558	4.5500E-02	11.055	10.762	1.8200E-05
37	436000	1200	0.0189	0.0000E+00	0.3670	2.2400E-02	11.357	11.206	1.8667E-05
38	437700	1700	0.0189	0.0000E+00	0.3830	3.2100E-02	11.805	11.581	1.8882E-05
39	439700	2000	0.0189	0.0000E+00	0.4072	4.8400E-02	12.523	12.164	2.4200E-05
40	441100	1400	0.0189	0.0000E+00	0.4290	4.3500E-02	13.221	12.872	3.1071E-05
41	442000	900	0.0189	0.0000E+00	0.4490	2.0100E-02	13.563	13.392	2.2333E-05
42	442800	800	0.0189	0.0000E+00	0.4500	2.2000E-02	13.954	13.758	2.7500E-05
43	443600	800	0.0189	0.0000E+00	0.4650	3.0000E-02	14.517	14.235	3.7500E-05
44	444200	600	0.0189	0.0000E+00	0.4775	2.5000E-02	15.016	14.766	4.1667E-05
45	445000	800	0.0189	0.0000E+00	0.4950	3.5000E-02	15.768	15.392	4.3750E-05
46	445900	900	0.0189	0.0000E+00	0.5125	3.5000E-02	16.593	16.181	3.8889E-05
47	447100	1200	0.0189	0.0000E+00	0.5591	9.3100E-02	19.276	17.935	7.7583E-05
48	447800	700	0.0189	0.0000E+00	0.5790	3.9800E-02	20.728	20.002	5.6857E-05
49	448200	400	0.0189	0.0000E+00	0.6017	4.5500E-02	22.727	21.727	1.1375E-04
50	448600	400	0.0189	0.0000E+00	0.6236	4.3700E-02	25.135	23.931	1.0925E-04

Table 101. K_{MAX} Vs d2c/dn - Specimen DADN-6

TEST CASE ID-- DADN-6
OF CYCLE ENTRIES,M= 7
OF CRACKS IN HOLE,B= 0
FASTENER LOAD,P= 0.000
PANEL WIDTH,W= 1.4800

CRACK TYPE CODE,E= 1
GROSS AREA STRESS,S= 8.200
HOLE DIAMETER,D= 0.0000
PANEL THICKNESS,T= 0.0206

#	CYCLES	DN	A	DA	C	D2C	KMAX	AVG KMAX	D2C/DN
1	52000		0.0206		0.0553		3.430		
2	63400	11400	0.0206	0.0000E+00	0.0577	4.8000E-03	3.504	3.467	4.2105E-07
3	89800	26400	0.0206	0.0000E+00	0.0636	1.1700E-02	3.681	3.593	4.4318E-07
4	116000	26200	0.0206	0.0000E+00	0.0696	1.2100E-02	3.855	3.768	4.6183E-07
5	136300	20300	0.0206	0.0000E+00	0.0745	9.8000E-03	3.992	3.924	4.8276E-07
6	161600	25300	0.0206	0.0000E+00	0.0809	1.2800E-02	4.165	4.078	5.0593E-07
7	166200	4600	0.0206	0.0000E+00	0.0823	2.7000E-03	4.200	4.182	5.8696E-07

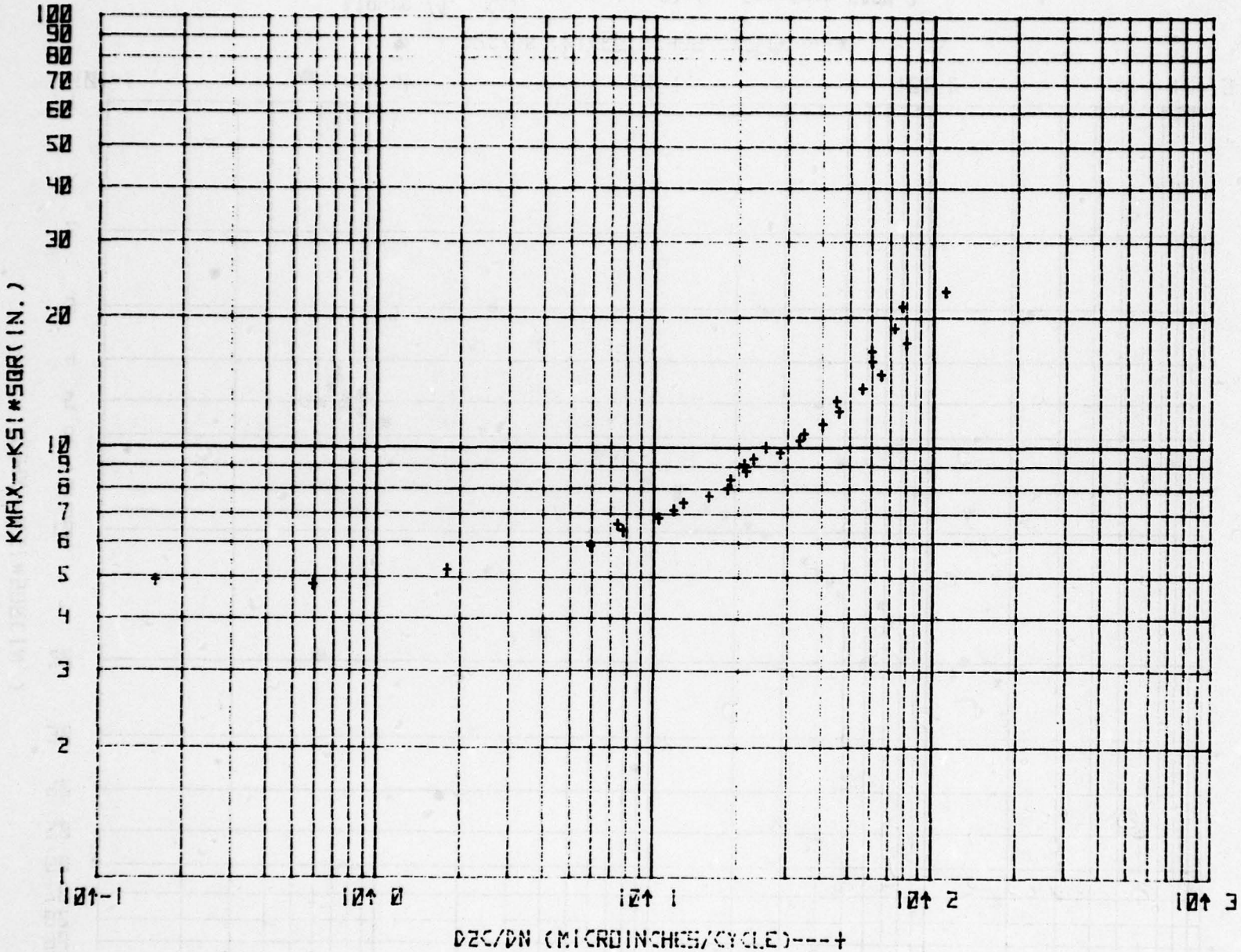

Figure 73. K_{MAX} Vs d2c/dn Plot - Specimen DADN-1

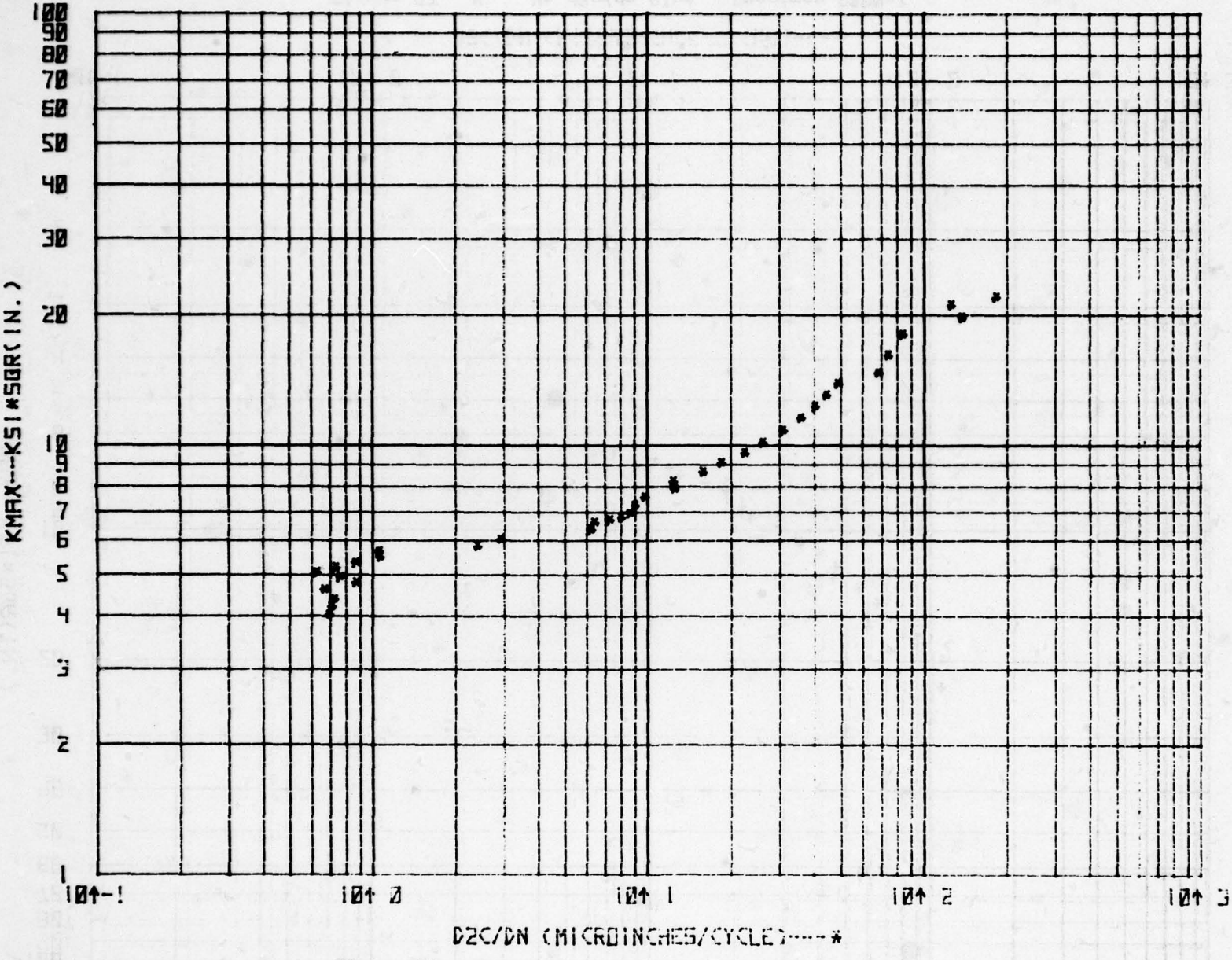

Figure 74. K_{MAX} Vs d2c/dn Plot - Specimen DADN-2

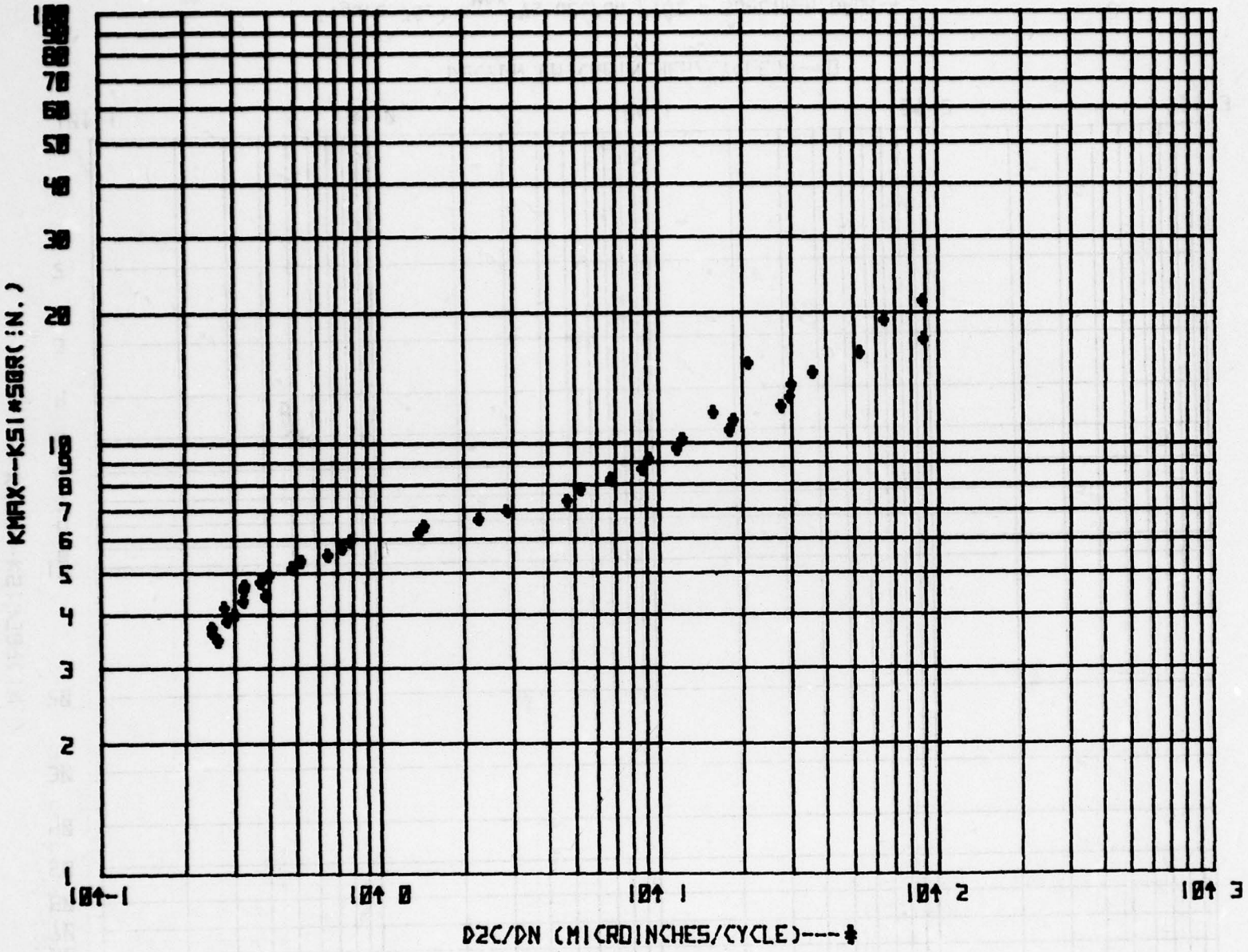

Figure 75. K_{MAX} Vs d2c/dn Plot - Specimen DADN-3

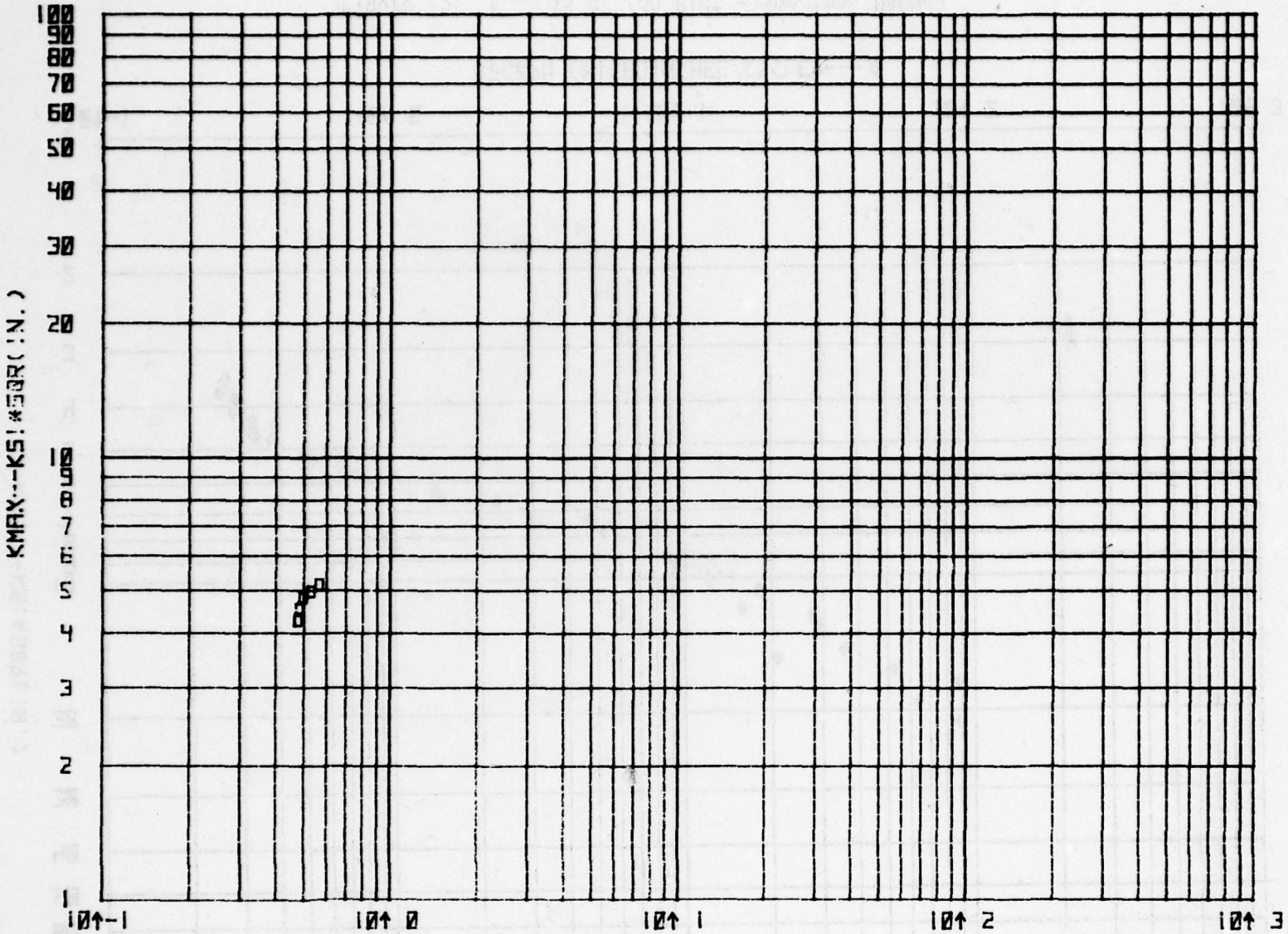

Figure 76. K_{MAX} Vs d2c/dn Plot - Specimen DADN-4

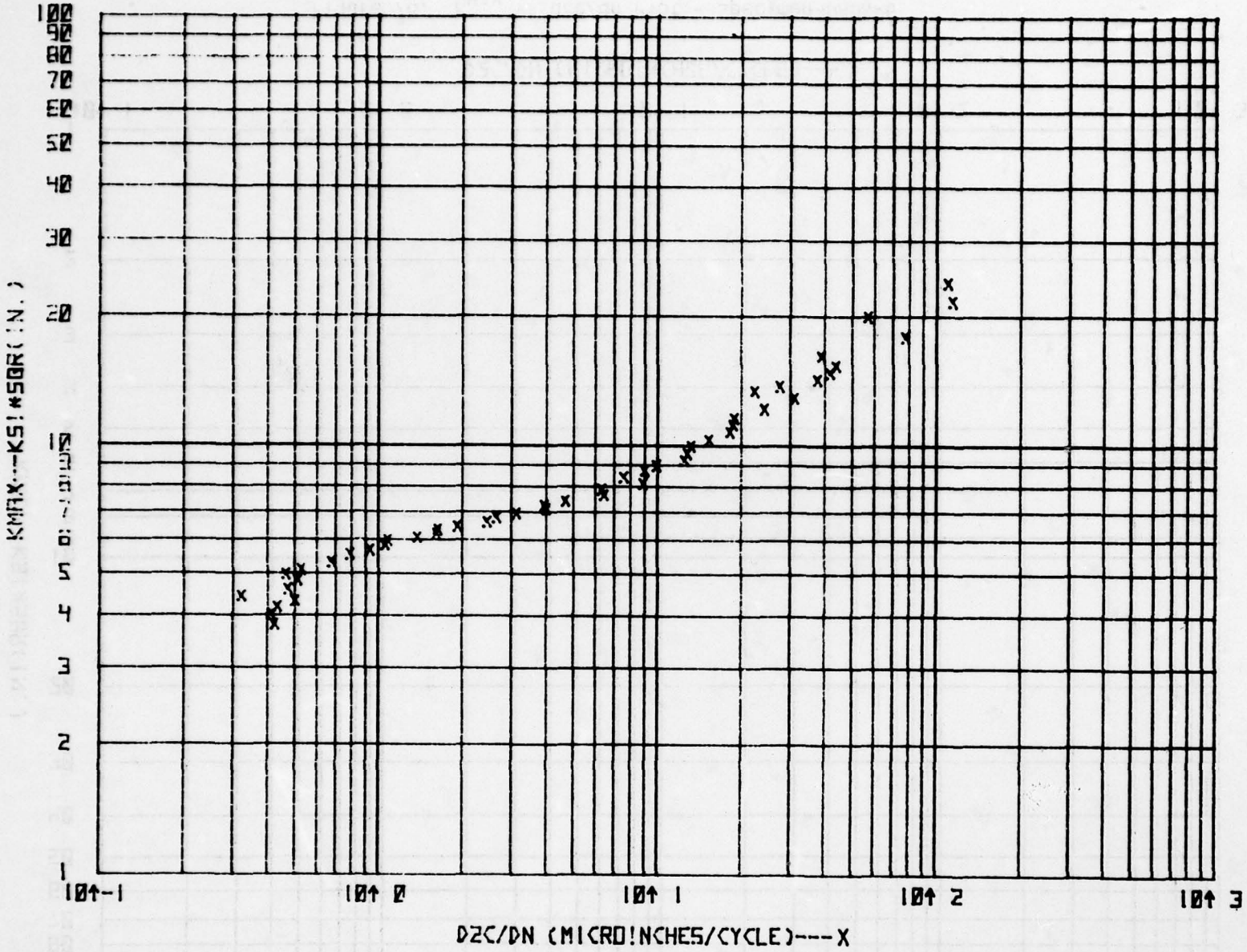

Figure 77. K_{MAX} Vs d2c/dn Plot - Specimen DADN-5

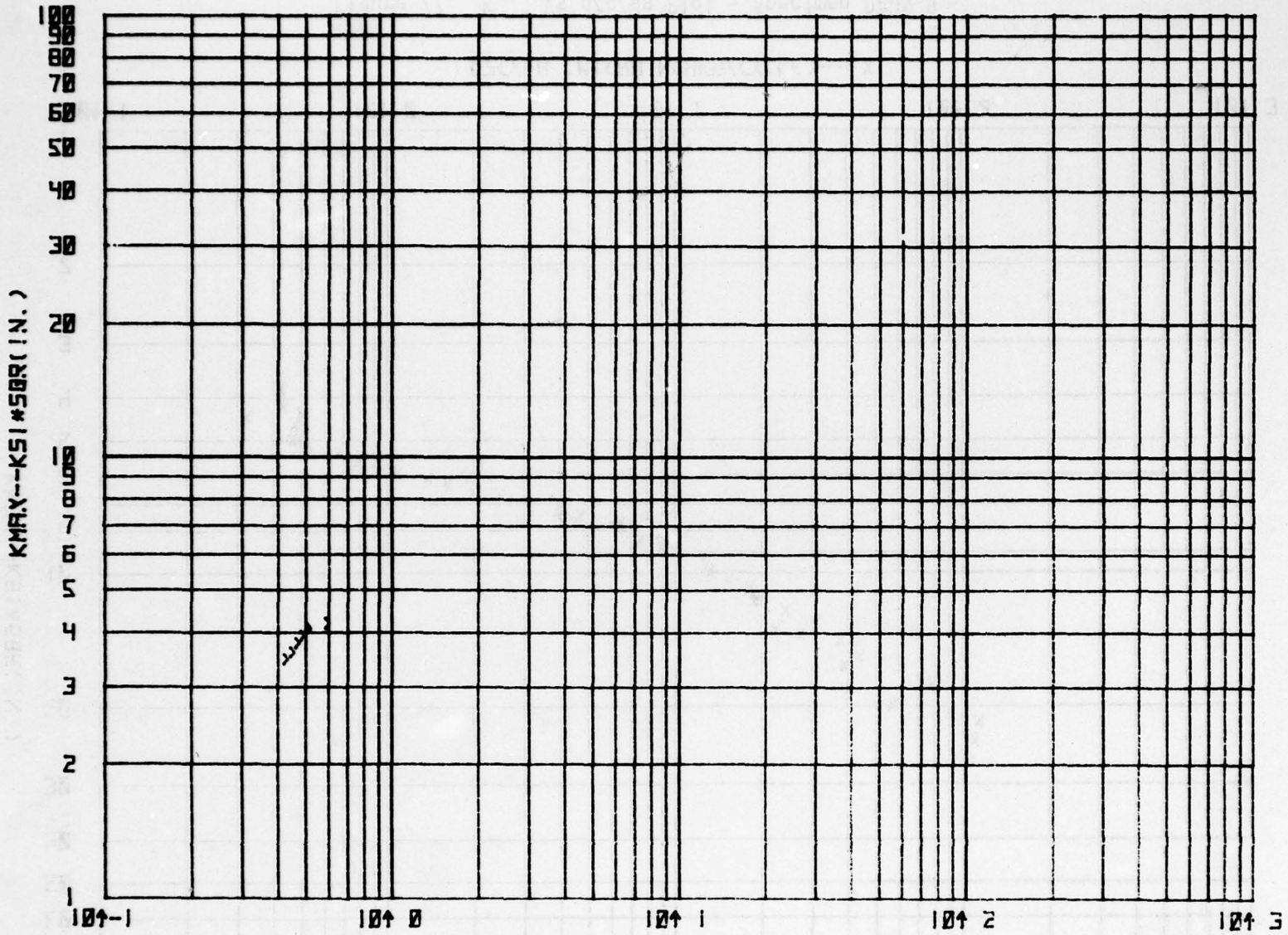

Figure 78. K_{MAX} Vs d2c/dn Plot - Specimen DADN-6

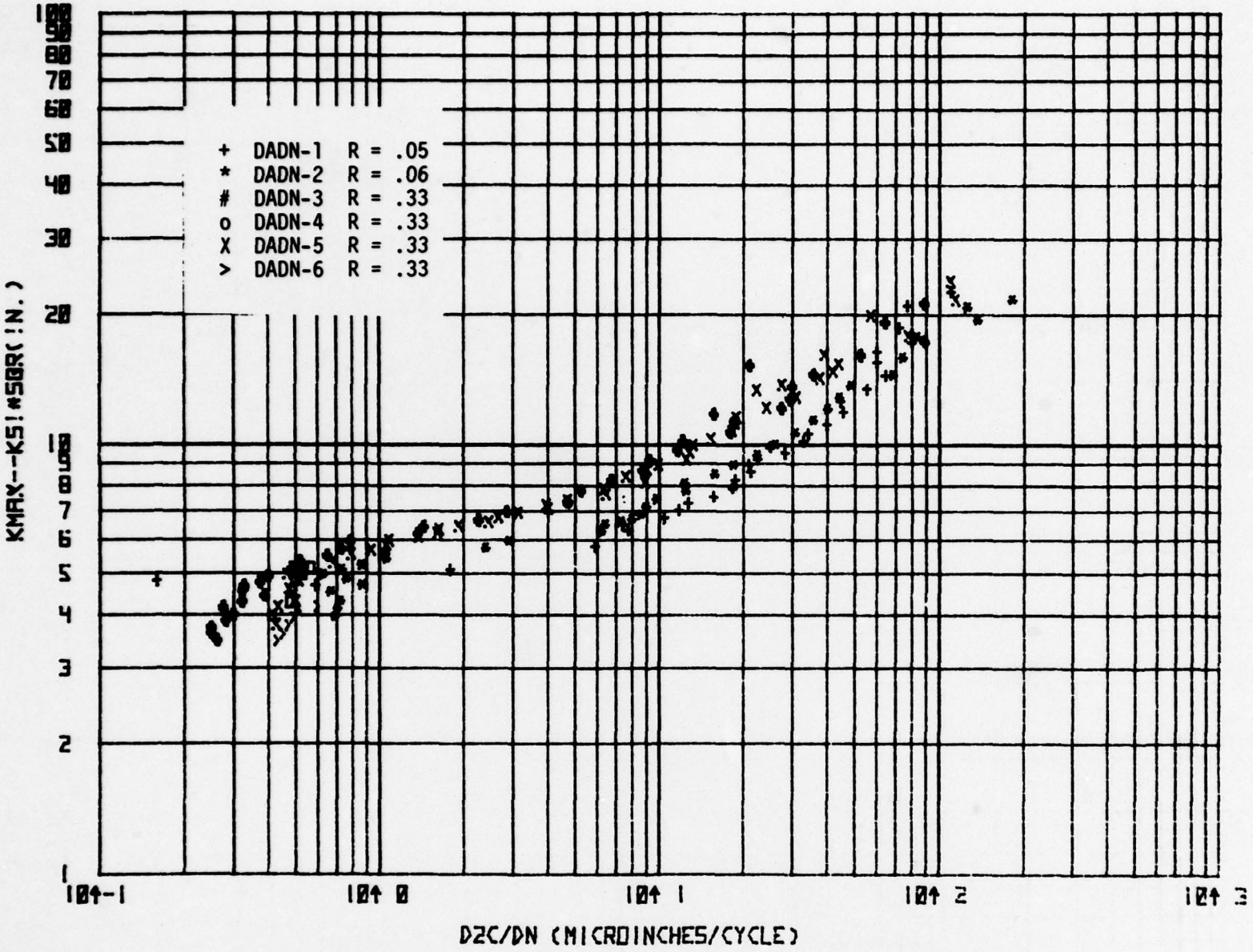

Figure 79. K_{MAX} Vs d2c/dn Composite Plot DADN-1 Thru DADN-6

*U.S.Government Printing Office: 1979 — 657-002/143